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THE MENTOR, published monthly, on the first of the month, by The Crowell Publishing Company at Springfield, Ohio, U. S. A. Subscription, \$4.00 a year in the United States and Canada; foreign postage, 50 cents extra. Single copies, 35 cents. Subscribers are notified that change of address must reach us five weeks in advance of the next day of issue. June, 1925, Serial No. 268. Entered as second-class matter at the post office at Springfield, Ohio, under the Act of March 3, 1879.

GIANT BIRDS OF PREY

EAGLE AND CONDOR

BY LEE S. CRANDALL

CURATOR OF BIRDS, NEW YORK ZOÖLOGICAL PARK



WHEN primitive man first raised his eyes from the earth and watched the soaring flight of some bird of prey he laid the foundation for a worship of higher things that has grown and expanded in the souls of his descendants. Man's recent conquest of the air is the realization of the dim yearnings of the first skygazers—yearnings to emulate the eagle in lofty flight, and in courage, strength and love of freedom.



From "An Argosy of Fable," © F. A. Stokes Company

Original painting by Paul Bransom

THE TORTOISE AND THE EAGLE

A tortoise, dissatisfied with his lowly life, and confident that, if he could but once get up into the air, he could soar with the birds, called upon an eagle to give him a chance to fly. The eagle assured him that the thing was impossible, but, being pressed by the tortoise, he at length took him up to a great height and, loosing his hold upon him, cried, "Now then!" The tortoise, finding the air no medium for him, fell straightway upon rocks, and was dashed to pieces. So Æsop tells the fable—for the benefit of those that try to "fly high" when they haven't the wings for it

The MENTOR

Vol. 13
No. 5



SERIAL
NO. 268

JUNE, 1925



GIANT BIRDS OF PREY EAGLE AND CONDOR

BY LEE S. CRANDALL

The photographs illustrating this article and "Queer Things Big Birds Do" were made from life at the New York Zoological Park for this number of The Mentor



AFRICAN CROWNED EAGLE

This bird and its allies are named from the decorative crests on their heads. Though short in wing and comparatively small, they are skilful at soaring and are fierce and powerful hunters

Supreme among the giant birds of higher flight, in the minds of the American people, is the American bald eagle. The emblem of our nation, symbolic of all that is finest in our hopes, beliefs and aspirations, it is natural that, in our thoughts, there should be but one eagle. In thus idealizing a really noble bird we are simply reacting, in typical human fashion, to an instinct as old as our race.

The glorification of the eagle as a bird of war was brought to a high pitch by the Romans. The legionary eagle, borne at the tops of tall standards, inspired the troops to deeds of valor, just as the flag does to-day. Many modern nations, notably Germany, Austria and Russia, as well as our own country, have perpetuated the thought in adopting eagles as national emblems.

The term "eagle" is rather loosely defined, for, aside from the typical groups to which it is applied, it is used for some species more closely allied to hawks.

The typical eagles are those of the genus *Aquila*, which numbers about fifteen species. They are characterized by having the legs feathered to the toes and by the generally dark brown or black plumage, sometimes slightly variegated with white. The best known of these birds is the widely ranging golden eagle, which is found almost throughout the Northern Hemisphere, in North America, Europe and Asia. It is a rich, blackish brown in color, with a pale, tawny patch on the nape, from which it gets its name. As in most birds of prey, the female is slightly larger than the male, the former averaging thirty-six inches in length, while her mate measures only about thirty-two inches. The wing spread is between seven and eight feet.

The golden eagle exemplifies all that is finest in the great birds of prey. A bird of strong flight, it is able to overhaul and kill mammals up to the size of small deer, and even to capture waterfowl and other birds while on the

GIANT BIRDS OF PREY



WHITE-TAILED SEA EAGLE

This eagle has recently achieved fame as the "ern" of crossword puzzles. It somewhat resembles the American bald eagle, but the body color is inclined to tawny and it lacks the white head. The range of the white-tailed sea eagle extends from Ireland into northern Asia

wing. By nature it is a creature of the crags and is usually found in wild, mountainous regions, where its splendid powers have full play. In North America it is uncommon in the east, but in the western mountains it is fairly abundant, often ascending to high altitudes.

The golden eagle is not difficult to tame, and in parts of Asia and on the high steppes of Russia it frequently is trained to take game after the fashion of falcons. The hooded bird is carried on a stout perch to its master's saddle and when the hunting field is reached is loosed at hares, antelopes or

even wolves. The eagle is noticeably slow in getting under way, but once fairly on the wing it quickly attains high speed, so that its prey, no matter how swift, is doomed unless it can find shelter.

In the Zoölogical Park we have had many instances of the great strength of the golden eagle's talons. On one occasion, as an unsuspecting keeper was washing an aviary with a hose, a golden eagle, usually quite friendly, made a sudden swoop at the attendant. The force of the blow drove the man to the ground, partly dazed. When he recovered his wits he found himself firmly pinned by both arms. He felt distinctly the pressure of the eagle's talons but was surprised to notice no particular pain. After a moment the attacker had a change of heart and returned to his perch. The man was then able to get his bearings and realized that the hose which he had held in his hands had fallen across his body and arms in such a way that the eagle had clutched it at each side. This prevented the talons from inflicting severe wounds.

Golden eagles frequently are accused of carrying away children—tales without foundation. A famished eagle might attack a child, but the golden eagle is incapable of carrying weights much exceeding six pounds.

One of the smallest eagles is Wahlberg's, a native of tropical Africa. It is an almost perfect diminutive of the golden eagle, except that it has a tiny pointed crest at the back of its head, which it is able to raise at will. The males of this bird are hardly two feet in length, so that they are smaller than many hawks.

And now for the sea eagles. Here, as the finest species, we find the bird that must take front rank among all good Americans—the bald, or white-

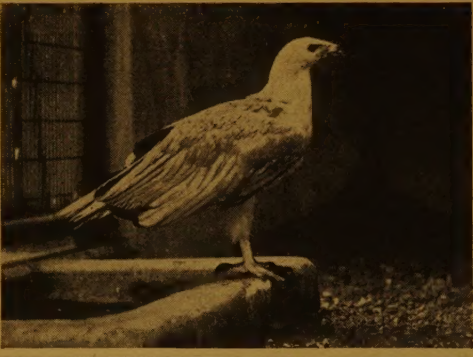


From a painting by Hans Schmidt

THE EAGLES' AERIE

High on the ledges of towering rocks the golden eagle builds its nest and lays its speckled, dull white eggs. As a rule, only one pair of mates is found in a wide area, and very rarely are golden eagles found east of the Mississippi River. When the young birds are hatched the parents carry fowl and wild game to their lofty nesting place

GIANT BIRDS OF PREY



WHITE-BREASTED SEA EAGLE

A gray bird of the seacoast. Much of its food consists of fish, but it also destroys the brilliantly colored and venomous sea snakes which abound in Eastern waters

headed, eagle. The sea eagles number about ten species, some of which are found in most parts of the world, excepting South America. They are essentially birds of the coast and are seldom found far from water. While their food habits vary somewhat, according to locality, their chief prey is fish, in the capture of which they are adepts. Unlike the golden eagle and its allies, the sea eagles are generally boldly marked with white, making them conspicuous and striking in appearance.

The American bald eagle is really misnamed. His head is well clothed with feathers, being pure white in the adult, which gives rise to the name "bald." The tail also is white, the remainder of the body dark brown. The young bird is dark throughout, three years being required for the assumption of the full white markings. In this immature stage the bird was once considered distinct and was variously known as the "Bird of Washington" and as the black or gray eagle. Young bald eagles are very like golden eagles and the two are often confused, but on close inspection the bald may be known by the fact that its legs are bare of feathers for some distance above the toes. There is little difference in extent of wing and total length between the golden and bald eagles, but the latter is stouter and heavier in body. It is a strange fact that immature bald eagles, due to greater length of feather, average larger than adults.

In aspect the bald eagle unquestionably is a noble and inspiring bird. The beak is heavy and strongly hooked, while the corners of the mouth have a downward curve, which gives the bird an appearance of severity. A bony place extends over the eyes, and has a curious resemblance to the beetling brows often observed in men of strong character. The body is heavy and muscular, with a suggestion of latent strength, while the powerful legs and feet, with their tiger-like talons, confirm the impression of a creature able and willing to hold its own under any conditions.

Some years ago, in the Zoölogical Park, we had an unexpected demonstration of the veneration in which the bald eagle is held by the American people. Crowded conditions in the Bird House made it necessary for us to put several turkey vultures temporarily in the cage with the bald eagles. Hardly a week had passed when we received a bitter complaint from a representative of a patriotic women's society, who felt that the dignity of our national bird was outraged by the presence of such ignoble birds as vultures. She demanded the instant removal of the latter. Needless to



Photographed from life

THE HARPY EAGLE

In length, the harpy approximates the golden eagle, but the tail is proportionately longer. It inhabits the heavy tropical forests of South America and feeds largely on sloths and monkeys, though it also takes other small mammals and birds. The harpy is noted for the great strength of its grip, as indicated by the heavy legs and talons

GIANT BIRDS OF PREY

say, the request was promptly acted upon, and the vultures transferred.

The bald eagle was once abundant throughout the United States, south to Lower California and northern Mexico, wherever there are bodies of water sufficiently large to provide the fish which are an important item of its diet. Constant persecution by hunters and egg collectors has greatly reduced its numbers, but in the wilder portions of its range it is still abundant. During the winter months it is seen near New York City, though probably it does not breed within some miles. It now enjoys the full protection of the law and seems to be slowly increasing.

In the boreal regions of Canada and Alaska is found a bird considerably larger than that of the United States, known as the northern, or Alaskan, bald eagle. This fine bird is especially abundant in Alaska, so much so that the fishing industries consider it a dangerous rival. The game laws of Alaska are under local administration and the authorities were prevailed upon to offer a bounty of fifty cents for every dead eagle. As a result, thousands of the birds have been brought down for the sake of this paltry sum. A recent change has been made in the disposition of Alaskan game authority and it is hoped that the bounty offer will be withdrawn and the slaughter will cease.

In common with all sea eagles the bald eagle is an adept at the capture of fish. At times it may take its prey in a spectacular swoop from the blue, at others it may be seen wading in shallow water, watchful for venturesome victims. But skilful though it may be in plying its trade it is no match for that consummate fisherman, the osprey. Thus it is common practice for the more powerful bird to assume the rôle of bandit and to rob the weaker of its catch. Having watched a successful dive on the part of its rival, the eagle rushes to the attack with a great show of fierceness. This so alarms the osprey that, in order to make certain of escaping its tormentor, it releases its clutch on its burden and speeds away on frightened wings. The pirate is then free to seize the fish as it falls or to retrieve it at leisure from the surface of the water.



THE BALD EAGLE

A majestic bird, chosen as the national emblem of the United States. It is one of the handsomest of all eagles. The full plumage is not acquired until the bird is three years old. The young resemble the golden eagle but may always be known by the fact that the feathers of the legs do not extend to the toes

GIANT BIRDS OF PREY

Fish do not form the sole diet of the bald eagle. When necessity arises it is surprisingly swift on the wing, and in localities where wild ducks are abundant the eagle is perfectly capable of capturing them in full flight. Small mammals, including young fawns and lambs, are taken on occasion.

In flight the bald eagle is magnificent. With pinions wide spread and floating with hardly perceptible effort, it glides through the air with an ease and grace which no man-made machine has ever equaled. Aided by favorable air currents and swinging in great circles it rises to tremendous heights, often beyond the range of vision of the naked eye.

As recently as last summer I had a fresh impression of the majesty of the bald eagle in flight. Driving along a little-used mountain road in Pennsylvania, on the heights above the valley of the Delaware, we emerged suddenly into an open space which afforded us a marvelous view. As we watched, a moving spot of white, slightly below us, caught our attention. And there, sailing smoothly on outstretched wings, in full regalia of pure white head and tail, was a superb bald eagle. His nearly motionless ease gave a false impression of his speed, for while we gazed spellbound he passed beyond our sight up the valley, the rays of reflected sunlight scintillating from his snowy banners.

There are eagles and eagles and they are to be found in most parts of the world. Europe has the white-tailed sea eagle, which resembles the American bird but lacks the white head; there is a beautiful white-headed sea eagle in Africa, and one known as the white-breasted is found on the coasts of Australasian islands. All these are similar in habit to the American bald eagle.

One of the largest of all is the Kamchatka sea eagle, found in north-western Siberia and wintering in Japan. In length it reaches forty inches or more. It is brown in general, with the tail and thighs pure white and a large white patch on each wing. Its most impressive feature is the tremendous bright yellow bill, nearly five inches in length and correspondingly deep. This great eagle is rare, even in museum collections, and its habits are not well known.

The crested, or hawk, eagles are birds of the tropics and some species are found in most places where conditions are suitable. They are dwellers in heavy forest and secure their prey by dropping suddenly from their leafy



THE GOLDEN EAGLE

A mountain bird, at home among the peaks. Like most of the larger birds of prey, it is slow in getting under way, but once fairly on the wing is swift enough to catch wildfowl in full flight. In some parts of the Orient the golden eagle is trained and used in hunting



hiding places, as it passes below. The crested eagles are bold and fierce hunters, often taking animals of considerable size.

One of the handsomest and most powerful eagles known is the "harpy," which ranges from Mexico to Bolivia and Paraguay. Its most characteristic feature is a long, graduated crest, which the bird can raise at will, greatly increasing its fierce appearance. The legs of the harpy are surprisingly thick and strong, while the claws are longer and heavier than those of any other eagle I know. I can testify that all the strength of an average man is required to loose its grip, one toe at a time!

CONDORS In point of flight no living land bird can equal the great American condors. With wing spreads of nine feet and more they far excel even the largest eagles in soaring ability. While the condors bear a superficial resemblance to the eagles and the Old World vultures, they are not considered as closely related to these birds. Like the vultures, they have no grasping power in the feet, and seldom kill living prey, though the Andean species sometimes does so.

The Andean condor is properly a bird of the peaks, even frequenting the

GIANT BIRDS OF PREY

regions of perpetual snow, but often it descends to sea level in search of food. Both sexes are glossy black in color, with an ashy patch on each wing. The head and neck are bare and much wrinkled, the rather unpleasant result being softened by a collar of pure white down. The head of the male is further decorated with a high, fleshy comb, like that of a cock, but without serrations. This is lacking in the female, which is also somewhat smaller than her lord. Young condors are entirely brown and take some years to acquire adult plumage, so that the immature birds were once considered to represent a distinct species.

In times past the size of the Andean condor has been greatly exaggerated. Claims of a wing spread of thirty to forty feet were once generally accepted and even experienced naturalists were led to believe that fifteen to eighteen feet was not unusual. I have measured the spread of several living condors and the largest was barely nine feet, though it is probable that exceptional birds will somewhat exceed this.

Recently the condor has been much reduced in numbers by plumage hunters because of the demand for the great feathers of the wing. It is still sufficiently abundant, however, to be a menace to the bird inhabitants of the valuable guano islands of Peru. The condor is decidedly rapacious at times, and not only robs the nests of eggs and young birds but also sometimes



THE CALIFORNIA CONDOR

North America's largest bird of flight. It has a total length of about four feet and a wing spread averaging nine feet, though up to eleven feet has been recorded. Once an abundant bird in the mountains of California, this great species is now nearly extinct

GIANT BIRDS OF PREY



CLOSE-UP OF AN ANDEAN CONDOR

The male of this species wears a fleshy comb on the head, much like that of a domestic cock. The ruff about the neck is of softest, whitest down. The female lacks the comb and is smaller than her mate, thus breaking the rule among birds of prey

kills adults of certain species.

The California condor is sooty black, with a gray wing patch; the under wing coverts are pure white. The head is bare and orange-yellow in color. The wing spread averages nine feet, though an extent of about eleven feet has been recorded.

In the San Bernardino Mountains of southern California the few survivors of this great species are making their last stand against extinction. Once fairly abundant throughout the coastal ranges, from Washington to

Lower California, North America's largest bird of flight has all but vanished. In the days of the gold rushes the wing quills of the California condor were much sought as containers for the precious "dust." As the country became more settled poisoned baits, placed for wolves and pumas, were freely taken by the condors, with disastrous results. Every effort is now being made to assist the few remaining birds in their right for existence.



SOUTH AMERICAN CONDOR TAKING A SUN BATH

This species shares the honors with the California condor as the world's largest land bird of flight. Unlike most vultures, the Andean condor is known to kill living prey and is one of the most dangerous enemies of the bird colonies on Peru's valuable guano islands



THE GIANT BIRD ♣ OF MARCO POLO AND THE ♣ ♣ ARABIAN NIGHTS

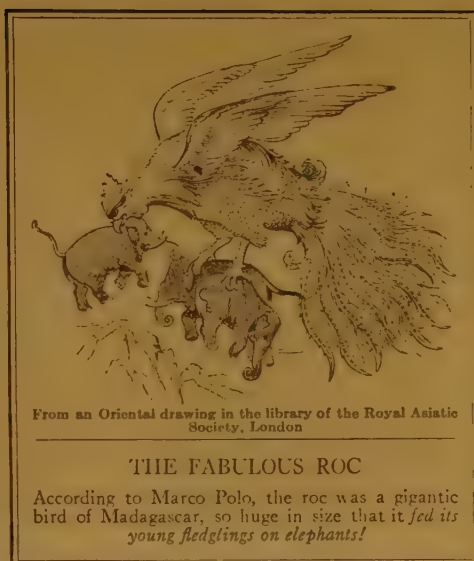
The early regard of man for the great birds of prey is reflected in the mythology of many lands. The legend of the roc, or rukh, is widely spread in ancient tales of Arabia, Persia and India. The best known of these tales is found in the story of Sinbad the Sailor. Sinbad relates that on his second voyage, at the close of day, "the sky became dark and the sun was veiled. I

therefore imagined that a cloud had come over it; so I wondered; and I raised my head, and I saw that it was a bird of enormous size, flying in the air; and this it was that concealed the body of the sun. At this my wonder increased, and I remembered the story that there is, in certain of the islands, a great bird, called the rukh, that feedeth its young ones with elephants. And, lo, the bird alighted, and brooded with its wings, and it slept." At this juncture the idea was born in Sinbad's brain that he could utilize the titan as a means of transport. With his turban twisted into a rope and bound tightly around his waist, he tied himself to one of the feet of the roc, "and when the dawn came the bird rose from its egg, uttered a great cry, and drew me up into the sky."

Another incident taken from the Arabian Nights relates to the size of the roc's egg, which voyagers mistook for a dome, "white, shining, glistening, more than a hundred cubits high."

Though the roc now appears to be purely a myth, Marco Polo reported that Madagascar was the home of the roc, and in his account of his thirteenth-century journeyings he states that the Great Khan of the Tatars dispatched two messengers to the island, who brought back with them a large feather, nine spans long and two spans wide. In form, Marco Polo said, the roc resembled the eagle, though "incomparably greater in size, being so strong as to seize an elephant with its talons, and to lift it into the air, from whence it lets it fall to the ground, in order that, when dead, it may prey upon the carcass."

In 1851 two gigantic eggs and some fragments of bird bones were found on the island of Madagascar, and for a time the accounts of monster birds of other days seemed to have verification. Unfortunately, investigation showed that, while the remains were undoubtedly those of colossal birds, these birds were related to the ostriches and were incapable of flight.



From an Oriental drawing in the library of the Royal Asiatic Society, London

THE FABULOUS ROC

According to Marco Polo, the roc was a gigantic bird of Madagascar, so huge in size that it fed its young fledglings on elephants!



AMERICAN FLAMINGOS

The flamingo is ungainly in appearance but, like most of Nature's products, he is eminently fitted for his work in life. His long legs allow him to wade into deep water and the swan-like neck enables him to reach the mud at the bottom, from which he secures his food



SOME QUEER THINGS

BIG BIRDS DO

PENGUIN, SWAN, FLAMINGO, SECRETARY BIRD,
MARABOU STORK, CASSOWARY AND VULTURE

There are over 20,000 kinds of birds. They differ in their ways as much as in form and color—and some of their habits are very queer.

Penguins are the most devoted parents of all. The penguins inhabit the Southern Hemisphere, and the largest species, the "emperor," lives south of the antarctic circle. In July, during the depth of the long antarctic night, when the ice is firmest, the mother penguin lays her single egg. She makes a platform of her stumpy legs and feet, on which to cradle her treasure, and warms it with a soft flap of down-covered skin. When the mother finds it necessary to enter the water for a meal she passes the egg to one of an eager company that is always ready. For it seems that, while emperor penguins are inordinately fond of brooding, few females of a flock produce eggs.

The emperor penguin stands nearly four feet in height and weighs close to ninety pounds. Its relative the king penguin is slightly smaller and lives farther north, where there is firm land, though its nesting habits are essentially the same.

A king penguin, the acquaintance of which I once made, in the Zoölogical Gardens of London, was a magnificent bird and brilliantly colored. He had also a most charming personality, and would turn his beak skyward with

SOME QUEER THINGS BIG BIRDS DO

a musical whistle of ecstasy when one scratched his glossy black throat.

Mammals frequently carry their young about from place to place, but this is rarely done by birds. Some ducks, such as the hooded merganser and the wood duck, nest in hollow trees, often at some distance above the ground. Just how the young get down has long been in dispute. Many observers have maintained that the mother carries them down in her bill or even on her back, but the truth seems to be that, in most cases at least, they scramble or leap to earth or water as best they can without assistance. I once saw a wood duck in the water, clucking softly to her newly hatched brood in a nest six feet above. Urged by their mother, one by one they launched themselves into space, and each downy mite landed safely with scarcely a splash.

However, birds do sometimes carry their young. The white mute swan of Europe often takes the cygnets on its back, either when they become tired or when danger is near. Some years ago I saw a splendid pair of South American black-necked swans on an estate in Holland. They had just brought off a brood of youngsters and the family made a striking picture as they swam in a little slough covered with duckweed. When I approached for a nearer view the female gave some subtle signal which was readily understood, for the cygnets promptly scrambled upon her back and were rapidly borne away. Like most male swans with families to guard, the father was inclined to be pugnacious. He moved slowly toward me, wings raised and neck arched, throwing the brilliant blue and scarlet of his beak into sharp relief against the black—a picture of defiance.

There is a great diversity in the feeding habits of birds and some birds secure their food in strange ways. The flamingo, for instance,



MUTE SWAN AND CYGNETS

Few birds carry their young, but this is common practice among the swans and grebes. When the babies are tired or threatened by danger the mother takes them upon her back, covering them with her wings

SOME QUEER THINGS BIG BIRDS DO

eats with his head upside down. The long, spindly legs, bare of feathers almost to the body, enable him to wade in fairly deep water; the gracefully curved neck allows the head to reach the mud at the bottom, where he finds his food. When feeding, the bird inverts his head, so that the upper surface of the angular beak rests on the bottom. Then, paddling alternately with his webbed feet, he stirs up the mud, draws in a mouthful, and forces it out again by raising his tongue. The sides of the beak are furnished with a row of narrow plates, which act as strainers, and sift out the tiny animal life on which the bird lives.

Several birds, of which the best known is the secretary bird of Africa, feed largely on snakes. The secretary is closely related to the eagles and has been aptly described as a "hawk on stilts." His long legs are well suited to his needs, for they cannot only strike a trip-hammer blow but enable him to keep at a safe distance from the foe. I have often witnessed battles between secretary birds and snakes, and never have seen the bird in the least danger of being struck. Balancing lightly on one foot, he kicks straight down and forward with the other, using his wings to regain his position. One fair hit will disable a snake of good size, and the bird is free to dispatch his victim at leisure. I have never seen the wings used to ward off attacks. When serpents are not available the secretary does not disdain

smaller game and I have often seen him strike down a butterfly or a beetle as cleverly as he would a viper.

As far as I know, parrots are uniformly vegetarians by nature, but one kind, the "kea" of New Zealand, has developed carnivorous habits. The kea has an unusually long and pointed bill, as parrots go, well adapted to use in exhuming roots and tubers. When sheep were introduced into New Zealand the birds formed the unpleasant habit of alighting on the backs of these helpless creatures and excavating there for the fatty capsule of the kidneys. In order to distinguish their animals the pioneer herders had a way of marking them on the back with red paint. This only served to draw the attention of the keas to the sheep, so the practice had to be discontinued. So severe did the ravages of the keas become that



THE SECRETARY BIRD

A relative of the hawks and eagles, the secretary bird is called a "hawk on stilts." He can dispatch a serpent of good size without danger to himself

SOME QUEER THINGS BIG BIRDS DO

the government offered a bounty for their heads.

Most birds work hard for a living and ply their trades with industry. But pirate birds have developed among them and live largely by robbing their more diligent fellows. The man-o'-war, or frigate, bird, a relative of the pelicans, is an expert fisherman in his own right, but when times are dull and food scarce he charges full tilt upon the smaller gulls and terns and forces

them to disgorge the catch that they have stored for their own use.

Friendship among birds usually is the result of a mutual benefit. Species that have flocking instincts band together for protection, to make use of restricted nesting sites or often simply because food is available in a given locality. Unselfish attachment between individuals seldom exists among wild birds, but in captivity, where social barriers are more or less broken down, curious and thoroughly platonic friendships are sometimes formed.

In two of the strangest attachments which I have known, cassowaries were involved. Cassowaries are among the most pugnacious of birds—most of them will attack at sight any living creature, large or small, that comes within their reach. As in all of the ostrich-like birds, their feet are their offensive weapons, and they can kick nearly as hard as a horse and far more skilfully. A case was recently reported from New Guinea, in which a native woman and her grown son were killed by a cassowary gone amuck.

I have never known two adult cassowaries, even of opposite sex, that would live together, yet twice I have known individuals to form an alliance with the most incongruous companions. In one instance a rather mild cassowary was introduced into a large paddock containing a few storks and cranes, which were agile enough to keep out of his way. All went well for a time, when it was noticed that a large marabou stork was developing a fondness for the society of the cassowary. The friendship grew until the strangely matched pair became inseparable. Frequently the cassowary could be seen lying on the ground, with the ungainly marabou perched upon his back, one foot drawn up, after the fashion of his kind. The birds had to be kept in separate quarters during the winter, and for years their reunion



THE MARABOU STORK

Often called the ugliest bird in the world, the marabou undoubtedly merits the term. Yet he produces the beautiful feathers once in great demand for boas and remarkable for their downy softness



"FUNNY," A FRIENDLY VULTURE

Unprepossessing in looks and repellent in habits, the vulture is a useful public servant and often amiable in disposition. "Funny," the eared vulture of the New York Zoological Park, has a number of human friends and likes to play with them

in the spring was really affecting.

The other attachment that I have noted was that of a cassowary of the small Papuan species and a South American trumpeter, a bird distantly allied to the cranes. Each of these birds had the most unpleasant disposition imaginable—in fact, each was isolated from all companions, for the general good. It happened that their quarters adjoined, and after a bit the two

rogues were seen in friendly overtures through the partition. The connecting door was finally opened with some misgiving, but the friendship was already well cemented and still endures. Toward each other they are mildness itself, but Heaven help the misguided peacock or guinea fowl that ever gets into their enclosure.

Feathers are of as much importance to birds as clothes are to us. In most cases the plumage is fully renewed but once a year, and therefore the bird owner takes the greatest pains to keep his raiment in good condition until it is replaced. Special plumes and decorations, of course, are the most difficult to care for, but often these are required only during the breeding season, which is comparatively short. Particular as birds are about their plumage I know of only one that goes so far as to provide its own decorations. The motmots are a brightly colored South American group, with no close relatives and living in the depths of the tropical forests. The two central tail feathers are considerably longer than the others and when they are renewed a portion of the web, just below the tip, is very lightly attached to the quill. As they grow, the bird constantly draws them through his bill, until finally the weakened web breaks away, leaving the shaft bare for a distance of an inch or more, with a little tab on the end. Thus the motmot secures the "racket" decoration, for which he is famed.

A pathetic condition of life is that of the vulture. Here is a poor creature, a carrion bird whose habits place him outside the pale of decent society and so repulsive in appearance that human beings turn from him with a shudder—and yet he is a public benefactor, working constantly and efficiently in

the service of General Hygiene. And the most touching thing about it is that this ugly bird, detested by all, is often of an affectionate disposition and would like to be a "friend of man."

These pariahs, when considered as individuals, often are not only interesting but agreeable. A fine old eared vulture of my acquaintance is an excellent example. To his friends, who know him as "Funny," he exhibits a strong and pleasant personality. While his quarters are receiving their daily attentions he follows his keeper about, progressing with his peculiar vulture hop, striking playfully at the rake with his clumsy feet or tugging at the hose with his great beak. At frequent intervals he insists that his wrinkled pate be lightly scratched—and, at times, he brings a stick in his beak and invites a friend to play with him. He has his likes and dislikes—just like humans. In the early days of our acquaintance, before I had been admitted to the inner circle, he once slyly applied his beak to my instep with a shock that I felt for days. But that was years ago and "Funny" now figures as one of the most companionable bird characters I have ever known.

The nesting customs of birds range from almost complete indifference to infinite solicitude on the part of the parents. In the East Indies there is a species related to the Australian brush turkey which merely deposits its eggs in the warm sand of the sea-shore and leaves them to be incubated by the sun's rays.

Originally the stork made its nest in trees, but now it almost invariably builds on the tops of buildings. In Denmark, Holland and Germany, householders are delighted to have a stork guest nesting on the roof, as there is a well-grounded belief that the long-legged visitor is "a bringer of good." The wooing manners of the stork are extremely grotesque. With wings outspread it performs a kind of leaping dance, at the same time setting up a harsh chattering with the upper and lower parts of the beak. Storks commonly spend their summers in Europe and their winters farther east.



THE CERAM CASSOWARY

The cassowaries are among the most pugnacious of birds and noted for their willingness to attack almost anything that moves. They are able to kick with great force and agility, sometimes inflicting severe wounds with the long claw of the inner toe



LD ABE ❖

THE WAR EAGLE OF WISCONSIN

During the Civil War and for several years after its close Old Abe, the famous bald eagle, was a popular idol. That a living representative of our national emblem should actually have accompanied a regiment of troops through three years of warfare and safely returned to claim the plaudits of a reunited nation was unparalleled. Crowds gathered whenever he appeared in public; newspapers were filled with glowing accounts of his exploits; poems were written in his honor and at least one was set to music.

From various authentic sources we have gathered the facts about Old Abe. Taken from a nest on the Chippewa River, in northern Wisconsin, by an Indian of the Chippewa tribe, the famous bird was carefully reared as a pet. This was in 1861, and a few months later, when war was declared, he was taken to Eau Claire and sold to the Eau Claire Badgers, a company in process of organization for the 8th Wisconsin Infantry. He quickly endeared himself to his new owners, and in honor of Lincoln was christened "Old Abe."

Early in the autumn of that year the Eau Claire Badgers went to Madison to join their regiment and with them went Old Abe. The spectacle of a live eagle borne with the troops caused much interest. As the company passed through the gates of Camp Randall the bird is said to have caught a corner of the flag floating above his head and spread it to the full, with a great flapping of wings. This act aroused the wildest enthusiasm among the spectators, and the 8th Wisconsin was so impressed by its recruit that the eagle was promptly acclaimed its official mascot.

A perch surmounting a shield wearing the national colors was especially prepared, and on it, always attended by a selected bearer, Old Abe served with the troops through *three years* of battle and hardship. The 8th Wisconsin soon became famous as the "Eagle Regiment." Old Abe was carried in no less than seventeen battles, in two of which he is said to have been slightly wounded by enemy bullets. When shells were flying and the smoke



"OLD ABE"

Taken just after he was caught in 1861, when he was less than a year old

of battle was thickest the eagle spread his great pinions and screamed with excitement. This apparent defiance of the enemy was a great inspiration to the troops, who fought throughout with bravery and determination. The fame of the bird soon reached Confederate ears and many unsuccessful attempts were made to capture the "Yankee buzzard." General Price is said to have remarked that he "would rather capture Old Abe than a brigade of Northern troops."

When the Eagle Regiment returned to Madison, in 1864, its mascot was the outstanding hero. At a public ceremony Old Abe was officially turned over to the state of Wisconsin and assigned to a special room in the capitol building. For seventeen years his health and popularity continued. His presence was in great demand at reunions and benefits for disabled soldiers. At such times he always proved a star attraction, and is said to have earned the sum of \$80,000 for the unfortunate among his former comrades.

By a special act of the Wisconsin legislature Old Abe, accompanied by

a veteran of the Eagle Regiment, was one of the features of interest at the Philadelphia Centennial Exposition in 1876. There he was to be found standing on his perch each day in the Main Building, surrounded by an admiring group, who gazed open-eyed into Old Abe's dignified and serious countenance, and accepted him as the original of the glorious American bird on the coins and seals of Uncle Sam.

Old Abe was honored and cared for with every attention until his death in 1881. His body was then mounted and added to the war relics of the state in the capitol building, but unfortunately it was destroyed by fire in 1904.

Like all heroes, Old Abe had his hour, and has passed on. At one time familiar to every school child throughout the Middle West, to-day his name is known to few.



"OLD ABE"

As he appeared while in the capitol building of the state of Wisconsin



AUDUBON, AUTHOR AND ARTIST

The Man That Made American Birds Famous

BY RICHARD DEAN

After eighty-four years of use and disuse the New York home of Audubon the naturalist is about to be demolished. When the writer recently set out to find the dwelling at the behest of *The Mentor*, several persons reported that it had already vanished. But at the foot of a long hilly street, leading from upper Broadway to the Hudson River, he found the mournful relic still keeping vigil over the acres Audubon loved so well

—acres that represented a share of the author's profits from the crowning labor of his life, "The Birds of America." At its present valuation by collectors, the sale of one set alone of the superbly illustrated first edition of this work would equal the original cost of erecting the old farmhouse, now marked for destruction to make way for an improvement in the river road.

"The American Woodsman," as romantic a figure as ever graced our national life, purchased the forty-acre farm when it was well outside the limits of the growing city of New York. The property fronted a thousand feet on the Hudson and ran back over a high tree-covered hill to a line east of Broadway. Audubon named the retreat for his wife. When his sons were grown they also built homes on the estate. A great part of the farm is now included in the shady precincts of Trinity burying ground on the crest of the hill. In a plot near the church sleeps the great bird lover himself, beneath a memorial cross of white marble.

Audubon took supreme delight in his country home. He had little in common with bricks and stones; the confining life of the city made him restless and unhappy. With friendly birds in the oaks and pines all about him at "Minnie's Land," he continued the work that had engaged his interest since, as a boy in his teens, he had first recorded the results of his nature studies.

Until a few years ago the state of Louisiana was named by all of Audubon's biographers as his birthplace. It has now been established beyond



Portrait by the son of the naturalist, Victor Audubon, in the American Museum of Natural History

JOHN JAMES AUDUBON

One who saw the naturalist at about the time this portrait was painted says: "The expression of his face was sharp, but noble and commanding, and there was something in it, partly derived from the aquiline nose and partly from the shutting of the mouth, which made you think of the imperial eagle"

dispute that he was born on the island of Santo Domingo, April 26, 1785. Captain Jean Audubon, the father, was a dashing French sea captain. He acquired large plantations in the West Indies, and spent a great deal of time there after serving the United States during the Revolutionary War. He had a wife in France, Madame Anne Audubon, whom he had married in 1772. In the town of Les Cayes, on the south shore of Santo Domingo, Captain Audubon formed alliances with two Creole beauties, both of whom bore him children. One of these was Jean, or John; the other was a little girl named Muguet. The name of Jean's mother is uncertain; doubtless she purposely concealed it to shield her family. She died during a negro uprising shortly after her child's birth. When he was four years old Jean, with his little sister, his father and two black slaves, left the island, touched at New Orleans, visited Richmond, Virginia, and went on to France. There the two children found motherly arms awaiting them. Madame Anne Audubon, having no sons or daughters of her own, adopted Jean and Muguet and reared them with devoted care.

Jean was a grown man before he took the name he made illustrious in the New World. "Jean Fougère" he was baptized; he was often called "Jean Rabin"; his own choice was "Jean La Forest." This fanciful name he signed to early drawings, with the evident desire to establish kinship with his beloved woods and the beings that inhabited them. In some of the clauses of wills drawn by his father and foster mother he was referred to as Jean Audubon, and under this name he married and took up his career in America.

For years he roamed afoot through the East and South, gaining a scant living as tutor, portrait painter, merchant, miller. He inherited from his father a farm, "Mill Grove," twenty-four miles from Philadelphia. On it there was a small lead mine. The town that now surrounds the property has been rechristened "Audubon."



THE "BIRD OF WASHINGTON"

Drawn from nature by Audubon, 1819. While the naturalist called his subject "Bird of Washington," or "Great American Sea Eagle," it is believed that it is actually an immature American bald eagle. The bald eagle does not show its true colors until it is three years old



From a photograph taken in March, 1925

AUDUBON'S NEW YORK HOME

Built by Audubon on his country estate, which fronted on the Hudson River. The naturalist died here in 1851. The house is to be demolished to make room for a change in the direction of Riverside Drive

He had a gay youth and often saw the dawn on his return from balls and parties; but that, he declared, was as he liked it: early morning hours were the best for bird study. He had had lessons in Paris from the celebrated Jacques Louis David, and he devoted his talent exclusively to making life-size portraits of North American birds and animals in water color and pastel. He was not a success as a business man. While he was working in the office of a New York exporter, he spent all his leisure hours preparing birds and animals for a collector.

Audubon's models were wired by a process of his own, which made it possible for him to place them in a variety of attitudes. His

drawings inaugurated a new method of illustrating nature. He was tireless in traveling to places often difficult of access. He and his family were frequently in desperate circumstances, prior to the publication of the monumental work that sealed his fame. For twelve years he made every other circumstance of his life subservient to his one great effort—the completion of the “Birds of America.” In June, 1838, the last installment appeared. The sets of plates and descriptive text were issued in separate parts, beginning in 1827. The subscribers numbered many persons and institutions of renown, both in the United States and Europe. The price for the complete publication, containing over four hundred colored engravings, was one thousand dollars. Within recent years the four-volume first edition has brought as high as five thousand dollars, and the sale of a set is an event among collectors.

Audubon continued to work until he was nearly seventy, bringing out new books and revised editions devoted to birds and quadrupeds. In January, 1851, the facile fingers dropped brush and pen. “As gently as a child composing himself for sleep,” he passed away at “Minnie’s Land.”

COURIERS OF THE AIR

UNCLE SAM'S MAIL-BEARING EAGLES AND THEIR CROSS-CONTINENT FLIGHTS

BY OTTO PRAEGER, FOUNDER OF THE AIR MAIL

"NEITHER SNOW NOR RAIN NOR HEAT NOR GLOOM OF NIGHT STAYS THESE COURIERS FROM THE SWIFT COMPLETION OF THEIR APPOINTED ROUNDS."

—Lines from Herodotus carved in stone above the portals of the New York City Post Office.

FOUR short words express the spirit of the United States Air Mail; they are continually on the lips of the forty-six pilots, the forty radio operators, the seventy caretakers of night-flying beacons and the five hundred others engaged in this vast transcontinental enterprise.

If a blizzard is raging the words are the same, "Get the mail through!" If the heat is stifling it also is, "Get the mail through!" The duty is as plain, and it is fulfilled as faithfully as it was by Lieutenant Rowan when he "carried the message to Garcia."

No one has yet sung the song of the Rowans of the sky, but some day somebody will. These fliers, dashing at high speed through the night and gazing down at the twinkling lights of peaceful towns seem, no doubt, to be a sort of supermen—at least to the quiet home dweller below, who is somewhat dazed by the audacity of the thing.

But the air mail flier takes his job much the same as the postman we meet at our doors in the morning. Long, mountainous stretches between landing fields are on a par with a delivery route up a city street or

on a road in the country. If he finds he cannot make the trip one way he tries another. His grit and resourcefulness are a matter of course. He is ready for any emergency.

One of the fliers was on his way across the Great Salt Lake. Below, the hazy blue waters spread out monotonously for many miles; above, the sun ducked intermittently into gray winter clouds and out again; ahead, growing more distinct as the airplane pounded against the wind, he could see the jagged white line of the shore. He sat back, glancing occasionally at the even registration of the speed and altitude dials, satisfied that the New York-San Francisco air mail was traveling on

schedule. All signs seemed to be favorable. Ahead in the mail compartment rode fourteen pouches of letters, documents and valuable packages. The eastbound ship had been passed and the journey would soon come to an end.

The airplane suddenly trembled. A sharp crack and the flash of fire from the engine showed that something was wrong. The thermometer dial indicated that the radiator



THE HIGHEST BEACON LIGHT IN THE WORLD

This 5,000,000-candle-power beacon is located in the Rocky Mountains on the top of Sherman Hill, between Cheyenne and Laramie, Wyo., 8,600 feet above sea level. It is used to guide air mail pilots on the transcontinental route on their night flights



© P. & A.

A STATION ALONG THE ROUTE

This photograph shows a typical air mail station and field, Salt Lake City. The ships at the right are ready to leave as soon as those incoming arrive and the mail is transferred

was nearing the boiling point. The shore, at a guess, was fifteen miles distant. From his altitude, the pilot estimated hastily, it would be impossible to glide to the beach, but by using his engine gently he could reach shore.

The tremendous steam pressure caused scalding water to stream back into the pilot's face, but he gritted his teeth and kept gliding. To give up meant death and the loss of the mail.

The engine pit burst into flames. The pilot reached hastily for his fire extinguisher but stopped. If he were to use it he must side slip the ship to avoid the fumes; such a thing was out of the question; the loss of a minute might mean failure to reach the shore.

The seconds dragged, but the land was nearer. As the airplane skimmed down toward the water the pilot had to coax it up again by sudden spurts of the flaming engine. This skilful manipulation was successful in the end, and the great machine was landed safely *just* across the ridge of dirty broken cakes of salt on the edge of the sand.

The mail still had to be saved. The pilot, now able to fight with his hand fire extinguisher, localized the blaze and dragged out the fourteen sacks of mail. Burned, aching and half blinded, he hauled them over the sand to what he considered a safe distance. Then he fell in a faint.

As he came to he heard a thunderous explosion. The fire, working back, had set

off the tank of gasoline. The pressure suddenly released, great flaming sheets shot out for ninety feet around. The pilot again worked to save the mail, but failed. Only a few charred fragments remained when a rescue party found him exhausted near the wreck.

That accident has been the *only one in the last three years* in which any mail has been lost by the service. It is a demonstration of the splendid ground organization and courage and devotion of the pilots of the United States Air Mail that is not surpassed by the most successful aviation activities in any country.

On a flight from Salt Lake City to Reno an air mail pilot made a forced landing in the desert near Secret Pass. His ship had been damaged so that he could not fix it himself. Alone and unseen, there was nothing to do but walk toward the nearest house.

In a short time he found a broncho, which he captured and started to ride. The broncho bucked, as bronchos often do, and the flier fell, breaking his ankle.

He limped part way, but, because of the pain, finally had to crawl to the ranch house, where he telephoned for help. His ship having been repaired by mechanics who flew it to him, he got into the seat and piloted it to Elko. From there, after his ankle had been put in a cast, he continued his flight.

Another pilot had an experience akin to

that of Robinson Crusoe. At Oakland, Cal., beginning an eastbound trip, he became lost in a fog. Unable to find the western shore, he negotiated a difficult landing on an uninhabited island in upper San Francisco Bay, where he had to remain until the day following, when he found a boat and rowed to the mainland.

A pilot on his way to New York encountered rain, wind and fog over the Alleghenies, forcing him to climb to 7,000 feet, where the weather was better. He continued east, by compass, traveling for an hour and a half, when he estimated he would be over the city. Descending, he found himself over the sea. He flew in circles for a short time, at last locating Ambrose Light Ship, thirty miles out. He retraced his course, landing at last on his field on Long Island. A favorable west wind had increased his speed so that he had overshot his mark.

On a trip from Cheyenne to Omaha a pilot encountered a fog so dense that he could not make a landing. He circled until two in the morning, when there was a rift in the white billows. The familiar sights of the

Omaha field were missing; he dropped a parachute flare and went down anyhow, discovering that a north wind had carried him one hundred miles into Missouri.

One of the fliers on the eastern end of the continental route, when transferred to the Reno-San Francisco division, kept the news secret from his sweetheart in San Diego. He wanted to surprise her when he reached the coast.

On his first trip over the Sierra Nevadas he ran into a storm that forced him to climb to 16,000 feet; flying by compass alone, he could see nothing below. His engine suddenly stopped and he had to glide into the storm and make a landing. His airplane hit a tree and was smashed, the pilot falling to the ground unconscious.

The girl in San Diego, on reading of the accident in the newspapers, was more surprised than the pilot had bargained for; she rushed to him and within a month they were married. Fortunately the flier had escaped serious injury and soon was back on his job.

In the earlier days of the service the mail fliers traveled across the desert between



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OFF FOR THE WEST WITH UNCLE SAM'S MAIL

Snugly protected against the cold of high altitudes in his one-piece fur-lined winter suit, Pilot Wesley L. Smith, U. S. Air Mail Service, prepares to "take off" from the Air Mail Field at New Brunswick, N. J.



© P. & A.

TWO SHIPS ON AN EMERGENCY FIELD

Transferring from a disabled ship (on the left) to a relief ship, to continue the journey after a brief delay

Salt Lake City and Elko by the shortest route; to-day they consider it wise to keep the railroad in sight, even though the distance is greater. The lesson came in the experience of a pilot whose stalled engine forced him down at a point a long way from civilization.

He set out on foot, but the heavy sage brush and hot sand drove him back to his airplane where, very thirsty, he had to drink the water from the radiator. He remained there for two days and nights, until a searching party went to his rescue.

The policy of remaining close to the railroads had brought the coöperation of the trainmen and others who work on the transcontinental systems of transportation. It is always a relief to the watchful organization when the Union Pacific telegrapher at the crest of the Great Divide, seeing the mail airplane pass the summit, sends a reassuring message back to the plains.

Strange as it may seem, the route between New York and Chicago is the most dangerous of the transcontinental trips; the Alleghenies, covered with trees, do not afford many of the possible emergency

landing spots found in the more rugged Rockies and Sierras.

Less spectacular, but not less important, are the corps of mechanics at the seventeen regular, or terminal, flying fields of the system—at New York City; New Brunswick, N. J.; Bellefonte, Pa.; Cleveland; Bryan, O.; Chicago; Iowa City, Ia.; Omaha; North Platte, Neb.; Cheyenne, Wyo.; Rock Springs, Wyo.; Rawlins, Wyo.; Salt Lake City; Elko, Nev.; Reno; Concord, Cal.; and San Francisco. They have no regular hours; their work is finished when the mail gets through; they are resourceful and vigilant.

At Rock Springs, not long ago, a wheel fell from the landing gear of a mail ship starting for Cheyenne. The pilot, of course, did not know of the mishap; disaster threatened when he attempted to land.

The Rock Springs ground force wired Cheyenne, where another ship, carrying a spare wheel, set out to meet the cripple. The Cheyenne pilot, by signaling and displaying the wheel, made the mail flier understand that his machine was damaged, so that he was able to negotiate a careful landing that probably saved his machine, if not his life.

The length of the transcontinental route, between New York and San Francisco, is 2,720 miles and the flying time averages from twenty-eight to thirty-three hours. The ship that leaves New York at 9:30 in the morning reaches Chicago by nightfall; the ship that leaves San Francisco at 6:30 gets as far as Cheyenne, Wyo. The distance between Chicago and Cheyenne, to be traveled at night, is about 885 miles, and has been illuminated to guide the fliers.

Every 200 miles the pilot finds a thirty-six-inch beacon on a fifty-foot tower, the light visible for from 100 to 150 miles. Every twenty-five miles he finds a twenty-four-inch beacon, visible for from fifty to sixty miles, and every three miles acetylene lights flash one hundred and fifty times a minute, visible for nine miles. So the aerial highway is unmistakable, except in extremely bad weather. The ships are equipped with powerful lights at the tip of each wing to facilitate landing at night.

The performance of the air mail, as might well be expected, is at its best during the more favorable seasons of the year.

The air mail ships, of which there are eighty-five, fly about 100 miles an hour

and carry 500 pounds of mail. During the last calendar year they flew a total of 2,156,403 miles and carried 34,059,296 letters. On each coast-to-coast trip fourteen ships are used, the mail being transferred so that the ships may be overhauled. The fliers also are changed after sectional "laps." The frequent stops enable mail to be let off and taken aboard, so that the benefits of the service may be enjoyed throughout the country.

As a financial enterprise the Air Mail Service, like fast mail trains, does not pay its way as yet. With the inauguration of night service between New York and Chicago as planned for this year, it probably will do so. But the function of the air mail, like the function of the speedy mail trains, is efficient service to meet the exacting demands of commerce. The postal establishment is not dedicated to profit but to service, and the air mail has become such an essential factor in postal institution that its contribution to commerce will never be measured in the terms of dollars and cents. It is part of Uncle Sam's great organization that works daily and nightly, year in and year out, for the benefit of all.



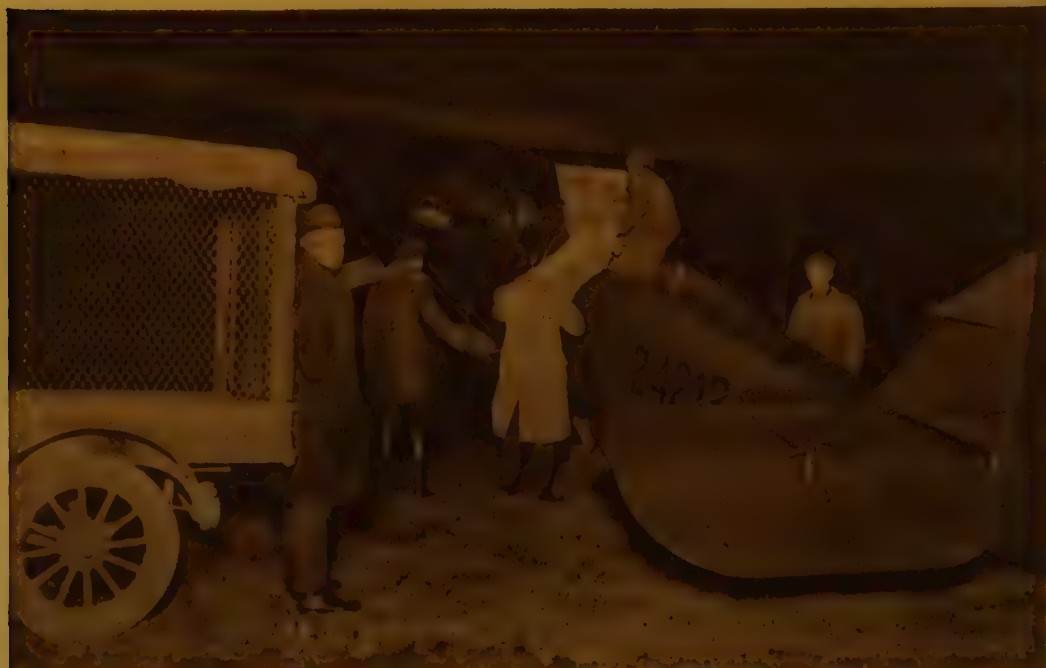
SKIMMING OVER FARM FIELDS IN THE MIDDLE WEST



International Newsreel

AIR MAIL FIELD AT NIGHT, IOWA CITY, IOWA

This is a striking night picture of a United States Air Mail field, completely illuminated. The many lights help the daring fliers in the service, winging their way across the country, to locate their station and make a safe landing



International Film Service

NEW YORK-TO-CHICAGO AIR MAIL INAUGURATED

This picture, taken December 18, 1918, shows the mail bags being taken into the first ship to carry mail from New York to Chicago. The service was formally inaugurated when Pilot Leo Smith left Belmont Field just before daybreak amid the cheers of post office officials and men prominent in aeronautics.



A RACE ON THE DESERT

An airship overtakes the Overland Limited in the Sacramento Valley, California



GOING OVER THE TOP

Surmounting the high summits before sliding down to the Pacific coast. The mountain in the background is Mt. Jefferson, Oregon

THE OLYMPICS

LAST WILDERNESS OF THE WEST

BY O. H. KNEEN

THREE men and five horses recently penetrated the last untamed wilderness of our land. They trailed through the heart of 6,000 square miles of jagged mountain peaks, deep chasms, glaciers and lakes and rushing rivers—often amid a tangle of tropical green—and made hundreds of photographs of the Olympic Peninsula, in the northwest corner of our country.

The little city of Aberdeen, lumber center on the southern border of the Olympics, selected three able men to "spy out the land": Asahel Curtis, a hardy mountaineer and outdoor photographer, who led the first large party through this region, in 1907; H. S. Olson, of the "Aberdeen World," and E. R. Voorhees, packer, cook and general utility man. On July 9, 1924, they left Aberdeen in an automobile, and the next day, at the end of travel eleven miles above Lake Quinault, struck out afoot. Food, sleeping bags and photographic equipment were packed on five sure-footed pack horses. For thirty days they were lost—so far as the outer world was concerned.

The dark trail lay along the lowlands toward the ocean, through the region of giant Douglas fir, spruce and dense undergrowth.

The second day they emerged upon the ocean front, traversed a few miles of hard beach sand, with the pounding breakers at their feet, and took up the trail again at the

mouth of the Hoh River. Few settlers or travelers passed them. On the fifth day, at a well-lighted spot on the shadowy trail, they met the weekly mail man, who makes a 150-mile route from Quinault to Queets. No bridges cross the numerous rivers flowing

into the Pacific; it is a case of fording the shoals or taking the occasional log or suspension bridge for foot travelers.

The trail now led up the Hoh River, always climbing to the headwaters on Mt. Olympus. For days they passed through magnificent stands of lordly cedar, fir and spruce, camping at night on beds of ferns and moss. Along this future power-river they met only the four lonely settlers. The trail, like most others in this region of high cost of clearing, consists largely of deep-worn elk trails,

linked up to give direction, but almost ready-made through centuries of use. Arriving at the glacier fields of Olympus the party had reached the heart of the rugged part. They climbed the glaciers to 3,000 feet elevation—far below its 8,150-foot triple pinnacle, but sufficiently high up to permit some pictures of great sweep and beauty.

The sparkling snow slopes of the mountains lay before them, but they were not to climb the peaks on this trip. They retraced their steps some fifteen miles, branched out again, climbed to 6,000 feet, lost it all again, and skirted civilization at Soleduck Hot



Photo by Asahel Curtis

ARCH ROCK, ON THE WASHINGTON COAST

A picturesque view, north of the mouth of Quillayute River



Photo by Anabel Curtis

ONE OF THE "OLYMPICS"

A view of Mt. Seattle, with a nameless lake in the foreground



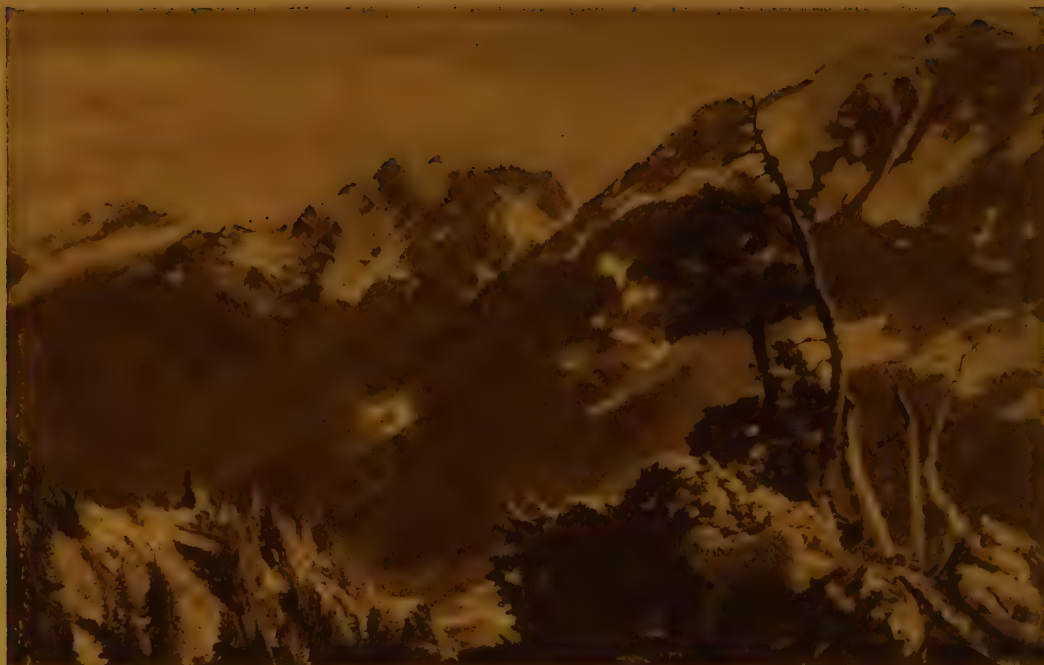


Photo by Asahel Curtis

A GROUP OF RUGGED PEAKS

Viewed from right to left are Mts. Queets, Seattle and Christie. This picture was taken from Mt. Barnes, near the head of Elwha River. Note the wind-torn, storm-swept tree in the right foreground

Springs, barely 1,000 feet elevation. In the daily ups and downs the toiling party made and lost nearly 60,000 feet of elevation, almost a record for continuous foot travel in twenty days of going. Fifteen to twenty miles was the usual day's travel. They camped where night fell, with water always at hand. Saddle horses are little used in this region; one's own feet are more dependable on these steep slopes and deep canyons.

The party now headed into the extensive Elwha basin, crossed the divide, and turned south up the Elwha, only stream in the Olympics now delivering power in quantities. Day after day they wound their way through the tangled mass of timber and smaller growth, much of it hung with moss; under foot was the natural fernery, and from alpine park and ridge the silver-tipped mountains pierced the clouds. At the Low Divide, 3,850 feet high, they crossed into the basin of the Quinault River's north fork; then on to Kurtz Lake, and the party began the long descent to Lake Quinault, beginning and end of their journey. They had completely encircled the major part of the rugged region, and passed through the heart of it; climbed the greatest ridges, dropped into the deepest valleys and canyons, and

climbed again by a maze of trails. Since the first exploring trip into the Olympics, in 1889-90, only three major parties had penetrated the region before the Curtis expedition was organized.

Only an occasional prospector, ranger, hunter or engineer ventured into the fastnesses. A few settlers took up isolated stations on the border near ocean or strait. In 1903 there was but one log house on Lake Sutherland, on the northern border. In 1907 the newly organized Mountaineers of Seattle, after months of planning and preparation, headed into the Olympics for their first annual outing. Working with the Forest Service they had built thirty-five miles of trail, linking up elk and other trails. Sixty miles ahead of the party quantities of supplies were packed and cached. Preceded by Asahel Curtis, leader of the party, sixty-four outdoor people (twenty-six of them women) explored and climbed to their hearts' content, laying the foundation for a club now numbering over 1,000 members. They climbed the west peak of Mt. Olympus for the first recorded ascent, together with a dozen other major peaks, naming several. Often they found at the top of a precipitous slope a pinnacle so jagged that there was

room for but two or three. Ragged, ice-topped ridges radiated as far as the eye could see. Often the ear caught the roar of an avalanche or the rumble of an imprisoned cataract under the ice. At their feet were mountain flowers and deep carpets of heather; in the distance were the cavernous depths of ravines, the rolling billows of the ocean, the silver map of the sound, while on guard far to the east stood the four snow-capped sentinels of the Cascades.

This revelation of the Olympics was the forerunner of the two other outings, in 1913 and 1920, when parties of over one hundred branched from the main trail between Elwha and Quinault. Several large bands of elk were encountered. On one occasion eight large bucks, cut off at the head of a blind coulee, escaped only by dashing by, one by one, close to the spellbound climbers. Big black bears, harmless and good-natured, often crossed their trail.

Though the Olympic ranges reach only 6,000 to 8,000 feet in elevation, there are precipitous slopes, uncharted glaciers and dense forests to trap the unwary. Several lives have been sacrificed to lack of experience and knowledge of the difficulties. As

late as August, 1924, a photographer, well versed in traveling in more accessible regions, lost his way on the glaciers of Mt. Olympus, and, though, from far above, he was seen to fall, two searching parties failed to find the crevasse or his frozen body.

Not a few features are peculiar to the Olympics. With salt water on three sides, the peninsula is almost an island. Only eighty miles from the city of Seattle, the interior is still the least known of our wild regions. Except for the borders on the ocean and the Strait of Juan de Fuca, no accurate mapping has been done; scores of high peaks are unclimbed and unnamed. Within the Olympic National Forest a million and a half acres of fine timber are untouched, Arctic plants are found at elevations much lower than elsewhere, 3,000 feet or less. Among those found nowhere else are the violet, on the top of Mt. Olympus; the harebell, bright blue denizen of rock crevices, and the big white aster of Marmot Pass. Many are the varieties of mountain flowers, ferns, mosses and lichens.

With animal life the 600,000-acre game preserve of Mt. Olympus National Monument is abundantly provided; in the sur-



Photo by Anabel Curtis

BLUE GLACIER, MT. OLYMPUS

Showing Blue Glacier at the head of Glacier Creek, its nose tumbling over the rock. This is one of the smaller glaciers, whose total area is twenty-two square miles. It is receding rapidly



Photo by Asahel Curtis

SWITCHBACKS ON THE TRAIL

The trail between Sol Duc and Boulder Pass, leading into Boulder Basin. At the top the trail has an elevation of about 6,000 feet. This picture is typical of the rugged topography and the difficulties of travel

rounding forests the alert hunter is never long without a target. The Roosevelt elk, largest of the family and found only in the Olympics, is protected at all times by the government. It is estimated that 8,000 roam over the peninsula. Black bear are found wherever huckleberries and other berries abound. Wildcats, martens, beavers, marmots, cougars, even an occasional timber wolf or mountain goat may be seen. Grouse, quail and pheasant are prolific. Waters of the many lakes, clear and cold, harbor such trout as the Beardsley, of which 24-pound specimens have been trolled from the depths with a 200-foot metal line; the crescent trout (thought by old-timers to be a species of land-locked salmon); the rainbow, fighting trout of the Elwha.

Summer climate is unique for its dryness; winter for its extreme wet. Vapor-laden clouds, driven by southwesterly winds, sweep in from the Pacific. The air is fragrant with the odors of dense vegetation. Gentle breezes blow across the Japan Current, flowing close to these shores. The summer nights and forenoons are cool, while the afternoons are pleasantly warm. It is only occasionally that the temperature rises above

ninety degrees. The winter months are correspondingly mild.

The Olympics possess all the essentials of a great water-power region. Moisture-saturated clouds rise from the ocean and are driven to the land; high altitudes chill and precipitate; snow and ice are formed to store the moisture; uniform temperature induces slow melting; heavy forestation, lakes and pools aid storage and retard flow; and heavy gradients and deep chasms give a high head to the released water. Because they are glacier-fed these streams run smoothly and unfailingly; and there are many natural dams and power sites.

Around the fringe of this tropic region man's droning mills are eating into the big timber, but they have barely touched the magnificent stands of Douglas fir, of spruce, cedar and other useful trees. Often the loggers find diameters of three to six feet, heights of 175 to 200 feet. Because the Olympics hold our last extensive area of pulp timber, outside of Alaska, more mills must soon come to the source of their materials. Yet, if used with care, and a part of the cut-over areas are consistently replanted, the supply will last generations of users.



Photo by Asahel Curtis

A MOUNTAIN MAIL CARRIER

F. C. Weaver, U. S. mail carrier, on his weekly journey of one hundred and fifty miles, between Quinault and Queets River. His limit is one hundred pounds, and all except first-class mail costs between ten and twelve and a half cents per pound



Photo by Asabel Curtis

AMONG THE BIG TIMBERS

Typical spruce timber seventeen miles up the Hoh River. Spruce is the ideal airplane material, combining lightness and strength with resiliency and clear length. It is now used extensively for pulp and paper manufacture and for sounding boards for pianos



Photo by Asahel Curtis

A HUGE CEDAR TREE IN THE HOH VALLEY

This tree, fifteen feet in diameter, stands near the Olympus Ranger Station in Hoh Valley. Three small trees from these parts yield more merchantable timber than an average acre elsewhere. The figure of a man on the right gives an idea of the giant cedar's proportions



Photo by Asabel Curtis

A COUNTRY ROAD UP THE QUEETS RIVER



Photo by Anabel Curtis

ROADWAY NEAR LAKE QUINAULT



Photo by Anabel Curtis

SOL DUC FALLS AND TRAIL BRIDGE

One of the innumerable waterfalls to be found in the Olympics

A CENTURY OF GEORGE INNESS

MASTER PAINTER OF AMERICAN LANDSCAPE

JUST one hundred years ago George Inness was born. He has not infrequently been called the "American Corot," a title that does not fit, and rather does him injustice. There were three ages of Inness—the youthful, the middle and the later. In some of his pictures of the later period there is a suggestion of Corot-like composition but, as a whole, Inness' style is distinctly his own.

The grim and harsher aspects of nature did not appeal to Inness. His own nature was gentle, gracious and full-tuned to the happier notes of outdoor life. Nature was to him always beautiful, always kindly; and, living with it for years, he came to know its moods and methods by heart. His art, like his subject, had its changing aspects, his canvases shifting in light and color like the sky and hill

slopes that he painted. A landscape, originally sketched from nature, would change under his brush as he worked over it in his studio. His painted skies would fill with clouds, then clear again; then sunlight would spot the grass, or shadows stretch across it, and the trees would turn from the green of summer to the russet of autumn.

Inness was born at Newburgh, N. Y., in May, 1825. His boyhood was passed in Newark, N. J., and there he obtained his first drawing lessons. Several years of study and sketching in and about Newark, and in a studio in New York, convinced him that he was merely following in the foot-

prints—or rather the *art prints*—of the American landscape painters who had preceded him. He felt the monotony and formality of the old school. Their landscapes seemed to him stiff and "statistical in details." Accordingly, he went abroad and

there put in several years of hard work—acquiring and assimilating art ideas, but without imitating. The only influence that seemed at all apparent in his work thereafter was that of Corot, and that influence is felt rather in the poetic aspiration of Inness' later pictures than in their actual technique. That he could paint in the style of French landscapists of the time was demonstrated clearly enough when one day, on seeing some pictures by Rousseau, the famous French artist, he said to a friend: "I could paint two of that kind a day"; and to

prove it he painted two landscapes in the French style the next day—and sold them.

When he returned to America in 1862 he settled in northern New Jersey near Perth Amboy and painted rural scenes about his home. Another trip abroad in 1871—when he remained away four years, in Paris and Rome—completed his foreign studies. The rest of his life was spent in and near New York, and his last years in Montclair, N. J.

Inness is said to have painted so many pictures that he could not remember half of them. A landscape bearing his name was brought to him by a purchaser who wanted him to vouch for its genuineness. Inness looked



GEORGE INNESS

The famous landscapist in his studio. From a photograph taken during his later years



Courtesy of the Macbeth Gallery, New York

"THE WOOD GATHERERS," By George Inness

at the picture a long time in doubt—"It looks pretty good—might be mine," he said. "Suppose you leave it with me a little while; perhaps I can remember whether I painted it or not." Like some other great landscape painters—Thomas Moran, for instance—Inness would occasionally paint one picture over another. It is said that when he was out tramping one day he was overtaken by a thunderstorm that was so beautiful in its effects of light and sky that he hurried home in order to paint it while his recollection of it was still clear. When he got to his house he found no canvas there large enough for the composition that he had planned in his mind, so he pulled down a ten-foot picture of Mount Washington that he had painted a number of years before. Working with feverish haste, he covered the mountain scene with a vigorous presentation of the thunderstorm that he had just witnessed. That storm picture, with the outline of Mount Washington still traceable by ridges of paint on the canvas, has hung for several years in the Art Museum of St. Louis.

Rambling about in fields and forests, Inness was often seen in informal garb like some simple countryman. On one of his outings he had, as the story goes, an interesting encounter with a young artist whom he

found at work in the corner of a field. The painter, while busy at his canvas, became aware of someone watching him. On turning around he saw what seemed to him to be a middle-aged farmer who was critically studying his unfinished picture. Growing restive under this he turned at length and said, "Well, you don't seem to like my work very much." The middle-aged man continued to study the canvas and make low humming sounds. Then the young artist turned and, with an expression of good-humored irony, held out his brush and said, "Here, perhaps you know more about painting this picture than I do."

The rest of the story is quickly told. The gentle "farmer" accepted the artist at his word, took the brush, mixed a bit with the colors and made a few strokes on the canvas. It was then that the painter learned that the plain countryman's name was "George Inness."

Inness' work is represented in many collections—the largest assembly of his pictures being in the Art Institute of Chicago. Since his death in 1894 his work has grown greatly in value. It is seldom that a painting of his comes into the market, and when it does it brings a price that places it among the high luxuries of life.



Courtesy of the Macbeth Gallery

"ACROSS THE VALLEY," By George Inness



Courtesy of the Macbeth Gallery

"JUNE," By George Inness



Butler Collection, the Art Institute of Chicago

"AFTER A SUMMER SHOWER," By George Inness



Butler Collection, the Art Institute of Chicago

"HOME OF THE HERON," By George Inness



Butler Collection, the Art Institute of Chicago

"EARLY MORNING, TARPON SPRINGS," By George Inness



In the U. S. National Museum, Washington

"SEPTEMBER AFTERNOON." By George Inness

PETER THE MOCKER

A True Story Related To

MARY S. BUTLER

This is the story of a little wild "mock" that came to us in a most remarkable way and remained for years a devoted member of our household.

We lived in a Southern village. Large oaks and pines grew in the yard of our house, and many flowering shrubs. Year after year birds built in the thickets. One day old Shep, our yard dog, came down the path with something in his mouth. He had picked up a wounded mock-ing bird and, as carefully as he knew how, was bringing it to us to be cared for. He laid it down at our feet with a look that said, "Dogs can be Good Samaritans too."

I fixed a nest for the wee bird in a basket suspended from the ceiling of the porch, so that no marauding animal could harm "Peter"—

as we called him. I fed the little fellow, and in a few days he was as well as ever. He soon taught himself to fly, and our delight may be imagined when we found that Peter intended to adopt the hanging basket as his permanent home. He would fly all about the yard and into neighboring trees, but always he came back to meals and to sleep.

One day Peter flew to the screen door of the dining-room, fluttered against the wire and made a noise that indicated that he wanted to get in and become more intimate with the family. He came in at my invitation and settled contentedly on a picture of St. Cecilia which hung over the mantel. This picture proved to be his favorite perch, and there he spent many pleasant hours trilling his melodious songs as gayly as though he were in the depths of the forest.

✧ Often he would fly down to sit on our fingers, eat from our hands and lips and nestle on our shoulders.

✧ Peter lived with us four and a half years. One of many endearing things he did was to accompany us when we went away from home to spend the night. As we traveled along the road our feathered friend would fly through the tree tops, keeping a sharp eye on us. At night he would roost outside our lodging place, and in the morning, when we came out, he would call as loudly as he could, "Peter! Peter! Peter!" to let us know that he was waiting for the return home.

On one occasion he brought to our door a female mocking bird which had lost one of her legs. Trustingly she came with Peter to his human friends for aid. She shared his

perch on St. Cecilia for several months, and many a joyous duet they sang to our delighted ears. The sweetness and clearness of their notes was remarkable and, unlike human vocalists, they were never "off key." With their own improvised melodies they mingled, in true mock-er style, extraordinary imitations of birds of other species with



PETER THE MOCKER

From a photograph taken from life

whose songs they had become acquainted. We found afterwards that the female had been caged and tamed by a fellow townsman, and so she was returned to her owner.

At last there came a day when we had to say good-by to Peter too. The new occupants of the house promised that his comfort and protection should be their particular care, and the picture of St. Cecilia was left hanging in its accustomed place on the wall. But Peter evidently was disturbed by the change and could not understand where we had gone. He would go off and stay for a week or two, then reappear. These journeys became more frequent, and Peter remained away longer each time, until at last he left for good. We always liked to think that he had gone in search of us and that somewhere he had found another happy home.



OME CALL THEM CYCLONES

BY C. F. TALMAN

What is a cyclone—and what isn't?

Way back in the year 1848 Henry Piddington of Calcutta, one of the great pioneers in the study of storms, published a treatise called "The Sailor's Hornbook," in which he introduced the term "cyclone" as a general name for all "circular or highly curved winds." This definition was broad enough to include our American tornadoes, but the term was not adopted into the scientific vocabulary in just this sense. Nowadays the name "cyclone" is technically applied to a vast system of winds blowing around a center of low barometer—the "low" of the



Photograph from U. S. Weather Bureau

STRAWS DRIVEN INTO PIECES OF WOOD
BY TORNADO

daily weather map. Cyclones of the tropics, though thousands of times as big as a tornado, are generally much smaller than the cyclones of temperate latitudes, and are nearly always violent storms. In our latitudes cyclones may be stormy or otherwise; they affect us chiefly by bringing weather changes from warm to cold and from wet to dry.

A tornado is another affair. The true tornado is a violent local whirlwind, the chief visible feature of which is a long dangling cloud, extending to or toward the earth. It is altogether different from the little whirls of dust or leaves that sometimes form in dry weather, and also from the tall whirling columns of sand seen in deserts and known as "devils," or "twisters." All of these latter start at the ground and work upward, and are visible only on account of the solid materials they carry. The tornado always begins high in the air and works *down*, and its visibility is due to the presence of a genuine cloud of condensed moisture. The waterspout is a tornado over water, but is far less violent than the land tornado.

Tornadoes are much more frequent and, on an average, much more severe in the interior of North America than anywhere else in the world.

From early spring until the middle of autumn devastation may be wrought by these storms in our country. The recent sweep of the Mid-West tornado that demolished De Soto, Princeton, Murphysboro and other towns is a tragic instance. Such storms, however, are not so common as newspaper stories imply. Statistics show that there is no place in the country in which tornadoes are not actually rare. Take any square mile of any of the states most notorious for these disturbances, and the probability of its being



Photographed by G. Pickwell

REMARKABLE PHOTOGRAPH OF A TORNADO

This picture is the result of two photographs taken in quick succession and attached to each other. The tornado was too near to be taken on one plate. The upper portion was photographed first, and then the lower

visited by a tornado in the course of a century does not work out more than a small fraction of one per cent.

A tornado is limited to a small extent of territory. The storm does no damage and is practically unfelt except where the tail of its pendent cloud touches the earth. This so-called "funnel cloud" assumes a variety of shapes. It is often described as resembling the trunk of an elephant or a great writhing snake. The true funnel shape, however, is not uncommon. When slender, its color is milky white, except near the ground, where it is darkened with flying dust and debris. The noise of the storm is terrific, resembling that of heavily loaded freight trains running over a trestle.

As the storm travels along, at about the speed of an express train in the average case, and in a direction that in most cases is approximately from southwest to northeast, the zone of destruction is little if any wider than the track swept by the whirling cloud. Its width is seldom as much as half a mile. The path is about twenty-five miles in length, but is not always continuous, because the funnel has a way of rising clear of the earth from time to time, and the places over which it thus plays leapfrog suffer comparatively little damage.

While the storm is progressing over the country, the air gyrates around the axis of the disturbance; and it is this spinning, twisting whirl that, in an instant, reduces wooden buildings to kindling and demolishes even the stoutest masonry.

No actual measurement has ever been made of the winds in the heart of a tornado, but their strength can be roughly estimated from the effects they produce; it undoubtedly reaches five hundred miles an hour in many cases. The tornado blast has been known to pick up a cart weighing six hundred pounds, tear it to pieces in the air and deposit the tire of a wheel more than a thousand yards away. Dead sheep have been found shorn of their wool to the bare skin by the force of the wind, and fowls plucked of their feathers. Loaded cars and locomotives have been blown from the track; iron bridges have been moved from their foundations. Straw have been driven through boards, laths through trees and small sticks of timber through an iron plate.

On an open prairie a tornado, if it occurs in the daytime, as is usually the case, can be seen many miles away, and thus, if it is headed your way, the best chance of escape is to run at right angles to its path, which, as we have stated, generally lies toward the northeast. A well-known institution on the farms of the Middle West is the "cyclone cellar," or cave.

The Weather Bureau never issues predictions of tornadoes. The locations in which they occur are always so uncertain that it is not thought wise to alarm people generally over the prospects of a purely local occurrence. When, however, the official prognostication declares that "conditions are favorable for severe local storms" it is advisable to keep an eye open for the dangling funnel cloud of the tornado.



Photograph from U. S. Weather Bureau

WHAT A RECENT TORNADO DID IN THE MIDDLE WEST

The freakish character of the storm is indicated here—the complete destruction of everything in the foreground, while houses a few rods distant in the background are undamaged



GREटना GREEN

Historic Haven of Runaway Hearts

BY ANN FOSTER CHAPIN

If all the world loves a lover then all the world loves Gretna Green. How the mere book romances would fade if one could hear the true stories of this hamlet on the Scottish border to which the first lovelorn runaways of a long procession went scurrying from England nearly 175 years ago! By coach and chaise and afoot they went, all with hearts aflutter for the informal ceremony which would make them man and wife under the Scotch law, with no need of banns and publicity, as England required; and at the end they went by the prosaic rail coach too.

There are marriages at Gretna Green even now. It was in 1856 that the British Parliament passed an act to take away Gretna's sentimental distinction, an act requiring that one of the parties to the marriage must reside in Scotland three weeks before the ceremony. But it takes more than a law to change human hearts, and sometimes now a sojourner at a border summer resort will wander to a tryst at Gretna, and the story is told once more. There is a glamour to the place so appealing that many a lass who might be wed comfortably at home chooses Gretna instead, just for the romance of it. It is like wearing "something new, and something blue" on your wedding day.

But in olden times they came sweethearting to Dumfriesshire all through the year at the rate of two couples a day, and Gretna had but one industry—not foreseeing the Great War and how it would put a £15,000,000 cordite plant there. Postilions cried speed and many a race between elopers and stern father was not settled till the hoofs pounded on Gretna's little bridge across the Sark. At least once it was not decided till the low, white village itself was reached: "A hundred

pounds to the man that marries me!" cried a voice at the window of an inn, but before the offer could be taken the father, his peruke all askew from a race clear across England, tore a weeping girl in a poke bonnet from the eloper's arms.

High and low, they came from all parts of England after a law was passed in 1753 making marriage more difficult in England, and one man alone had joined 7,744 persons when Parliament again, in 1856, made three weeks' residence in Scotland obligatory before marriage.

There are famous sweethearts among them too. Lords and ladies and humble folk—a grandson of Richard Brinsley Sheridan, and a captain and the daughter of a Duke of Beaufort, and a Marquis of Queensberry with a general's daughter (they rode on horseback), and more others than one could

tell—content, all of them, with the common-law marriage before witnesses, taking two minutes to do and payment made to the "priest" when the ceremony was three-quarters done. Love is a spendthrift and the fees were often fat, but, alas, one of the Scot marriers complained that many a time he was paid in notes which were not



BLACKSMITH'S COTTAGE

At which runaway couples were married at Gretna Green

honored when they fell due.

"All Kinds of Marriages Made Here" might well have been the sign in olden days. Little Ellen Turner ran off to Gretna Green at sixteen from school, but a special act of Parliament annulled her marriage and the husband, Edward Wakefield, was sent to prison and then to the colonies. Yet he rose high in Australia and became a great man. An old woman in a bonnet and shawl like a tablecloth got out of a coach in 1816 and disclosed herself as a man of seventy years. He gave eighty guineas to be married to his housekeeper, Mary Buck, and he scrawled his name on the window with a diamond, like any young swain. The name was Lord Erskine—the lord chancellor himself! Then there was Prince Carlo Ferdinando Borbone, brother of the King of the Two Sicilies, who

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wedded an Irish girl at Rome, married her again at Madrid, then a third time at Gretna Green and again in London—and even then society would not take the match seriously! All the world loves a lover, but not too much of a lover.

The story that you will hear most of at Gretna Green to-day is that of the Earl of Westmorland. It was in 1782. Anne Child was a banker's daughter. The banker was obdurate. So off they went as true lovers should, with the banker after them. North through England, a close chase all the way, and then the border in sight and Anne sighed with relief. But the coach stopped. A clatter, dust at the turn of the road—and her father, fire in his eye. What does the earl do? He waits. "Nearer! nearer!" Anne cries out. Then the earl takes his pistol, aims, fires and, as Anne screams, her father's near leader falls, shot dead. A moment later the couple are off again—and they win.

There is a sequel. It is now 1804. Their eldest daughter, Sarah, is in love with George Villiers, fifth Earl of Jersey. Again there is a stern parent—Westmorland this time. And again a runaway match to Gretna Green.

And still another sequel. Forty years have passed. Maud Villiers, daughter of that same Earl of Jersey and granddaughter of Anne Child, the banker's heiress, is smitten with Captain Ibbetson, a dashing fellow. The Earl of Jersey of the second elopement had fast horses—he won the Derby twice a century ago—but all the fast horses of the Jersey stable could not have

overtaken the captain and his bride, so Gretna Green had one more tender tale to add to the record.

That was the way they did it in 1750, and it is almost the way they sometimes do it to-day. But the old "priests" are gone. A strange lot they were—George Gordon, who put on his old soldier's uniform for a ceremony, and Lang, and Joseph Paisley, who had been smuggler, farmer, fisherman and tobacconist, but never a blacksmith, though the traditional marrying parson of Gretna (and Joseph Paisley set the tradition) is thought of to this day as forging the bolts of wedlock in a smithy. They hated one another terrifically in their professional jealousy. And how they took on dignity with their homemade certificates, misspelt! And how the others looked down on John Murray when he took the tollhouse at the bridge and so, being the first come to, got most of the pedestrian swains and maids on the way! The others went after the carriage trade. They set themselves up to be mighty men, yet not one of them had any standing under the Scotch law, which required only a pledge by man and woman in the presence of witnesses.

Gretna Green's story is growing old and it has not yet all been told. The history in the "priest" register books has never been compiled. Though great fortunes have sometimes hung on them the records are scattered and many are lost. But the world can never forget that "Port of Missing Couples." The scent of romance clings around it still.



OLD TOLL-BAR HOUSE WHERE MANY COUPLES AFOOT WERE MARRIED



IN THE LAND OF KING ARTHUR

By the Cornish Sea

BY DELLA MOHR

Just as in Brittany there are to-day more than a million souls who are not French, using not the speech of France, knowing not its customs and manners, but Celtic still in these characteristics, so in the southwest corner of Britain the same race has maintained through the centuries its distinctions, particularly that of language.

Cornwall is a land apart, in England but not of it, maintaining the imaginative and poetic strain and temperament of its early Celtic owners, preserving the legend and folk lore which were its heritage. The very atmosphere is that of the beginning of things, stripped of veneer, still the elemental and the defiant. What more fitting background for the staging of the contest between tribes fifteen hundred years ago, when invading Saxons had pushed Celtic Britons to the north and west of England, and Wales and Cornwall remained unconquered.

Then it was that Uther Pendragon, King of Britain, came into possession of Igerne, wife of the Duke of Cornwall, through a romantic device of Merlin the Wizard. Arthur, their son, afterwards became leader of the Britons.

Dr. Dickinson of Cambridge University says that "Arthur was as real a person as Julius Cæsar or Cromwell." We do know that there was a British Christian king of that name in the seventh century, leader of the neighboring provinces against heathen Saxon invaders. Around him Welsh bards wove romances which by the Middle Ages had found their way into every country in Europe. So we find our early hero passing

into literature with many of the ideals of later centuries. When Malory wrote his "Morte d'Arthur" Edward IV was on the throne of England. The Wars of the Roses had recently come to an end, Warwick the king-maker had been slain, Jeanne d'Arc had been burned at Rouen.

Four centuries later Alfred Tennyson roamed with his friend Hawker over the wind-swept moors of Morwenstow, saw the Cornish chough and red-footed raven circle by, and understood the soul of King Arthur "living in the dark interval between two civilizations." One legend says the kingly soul

is still living in the body of the chough. Even now that once sacred bird, like the Egyptian ibis, is considered a thing apart. A man of Cornwall removes his hat or pulls his forelock in obeisance before the reputedly reincarnate spirit. But the chough is a rare visitor in Cornwall now.

The area from Bude to Camelford may rightly be called "the King Arthur country." Undersea bells ring through its extent on the birthday of the hero, says legend. Camelford is a day's journey from Penzance, up through lanes of blackberries and fuchsia trees, like the Devonshire roads, with hedges higher than the stagecoach. Then the gray slate of Cornwall, a gray country of moors and sheep and fishing villages. Camel-

ford was Camelot of Tennyson's "Idylls." It is here that we find Slaughter Bridge, place of Arthur's death, and the Gravestone, a flat marble covering, seven feet long and two wide. Dozmary Pool is the legendary "mere" which gave and received the sword Excalibur—its stones and barren land remain unchanged, so that in the moonlight one may still imagine the white circles gleaming from the swaying hilt and the outstretched arm "clothed in white samite, mystic, wonderful."

Seven miles' journey from Camelford brings you to the stronghold of King Arthur, to the highest cliffs and strongest surf in Cornwall, a worthy background for a dauntless hero.



KING ARTHUR'S CASTLE

A Norman doorway, rebuilt in pre-Saxon ruins so blackened and weathered that they seem part of the rocky coast

THE MENTOR

Along this terrible coast for centuries superstition prevented the rescue of shipwrecked voyagers. From Land's End to the Scilly Isles was the country of Tristram, of Lyonesse; it is now covered by the sea. At Tintagel Head, Tristram (Tristan) landed with Isolt (Isolde) after the journey from Ireland. Geologists say that this land would be submerged now if it were not a solid wall of rock. There is little trace of the earliest castle from the time of British and Saxon domination; the present ruins are probably Norman, the stronghold having been scattered over the whole so-called "island." There are the remains of a small chapel, a well and a hermit's cave. The hall is open to the sky, carpeted with sea pinks in summer. We can imagine the superimposed rampart with tower above, impregnable from the sea, its only approach guarded from the land side; an ideal height from which to hurl stones and arrows and pour boiling oil. The single gate opens upon a causeway reached by toiling steps over the edge of the cliff. It is a thrilling moment when a lover of the "Idylls" puts the key into the lock of the old gate and comes out upon a grass-grown rock haunted by the ghosts of brave knights long dead. Way below may be seen the cave of the wizard Merlin, overflowing, at high tide, a tunnel through the Head under the castle. Over the moors high on a bluff stands the thousand-year-old church, its walls and windows those of a fortress. Just over the precipice is King Arthur's Seat, like a double throne hollowed out of rock, looking toward the land.

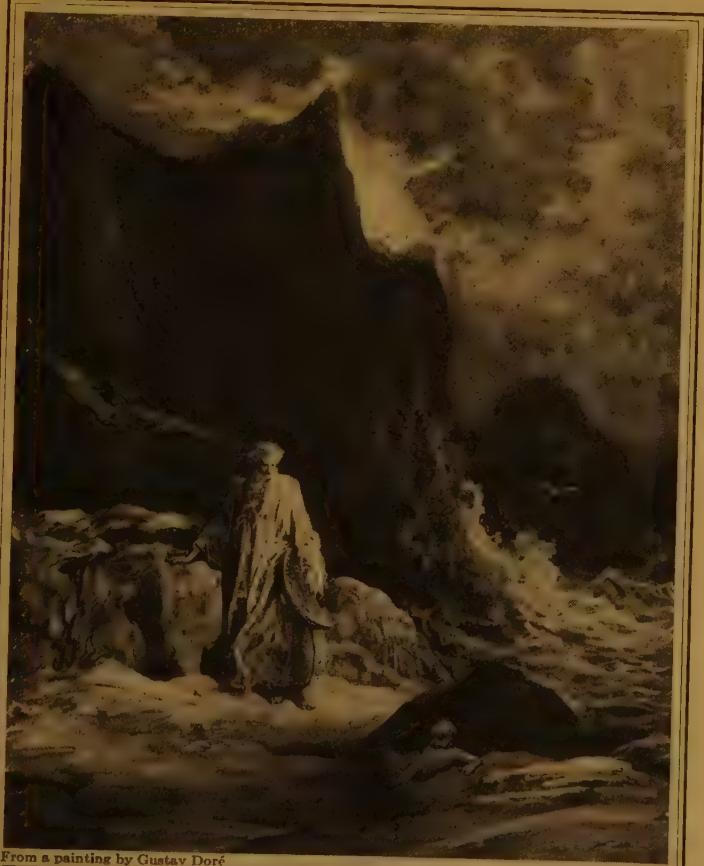
But all the romantic atmosphere of Tintagel is not found on its headlands; in the King Arthur Castle Hotel, with its knightly armor and weapons, there is a replica of the original Round Table at Windsor, made of English oak in wedge-shaped sections, eighteen feet in diameter. Malory wrote that the original was made in Tintagel in 523 A. D. by Merlin. Twelve

beams radiate from the center like spokes, with the inscription: "Thys is the Rounde Table of Kyng Arthur with XXIII of his named knyttes." On the top there is a painting of Arthur and on his left is the "Siege Perelous," the seat of Sir Galahad. The names of the knights are engraved around the edge.

It is said that King Henry VIII took Charles V of Germany to Winchester to see the original table.

Tennyson found Arthurian legends at Glastonbury and in Somerset, particularly at Cadbury. Glastonbury is supposed to have been at one time keeper of the Holy Grail.

But it is at Tintagel that Arthur still rules, that knighthood and chivalry are in the salt winds, that the bracken and nettles and furze remember the hoofs of the charger, and that the Cornish chough still guards with "talons and beak all red with blood."



From a painting by Gustav Doré

THE FINDING OF KING ARTHUR

"They found a naked child upon the sands
At wild Dundagil by the Cornish sea;
And that was Arthur"



THE BOAST OF THE AIR

BY EARL PAGETT

I am the air. I am your very life! You could live without food and water for days, but without me you could live but a few minutes. Not only does your life depend upon me, but so do all other forms of animal and plant life.

No man has been able to monopolize me. I creep into the most lowly hovel and brighten the blood of a slave—and I surround the throne of a king. I greet the newborn babe and sustain it through life, to the end of its allotted time. Never for one moment, sleeping or waking, do I forsake it.

I am directly or indirectly necessary to every chemical and industrial process. Without me the locomotive is impossible. I rush into its firebox to make possible the white-hot fire that supplies the steam required to send it along the rail at sixty miles per hour. For every pound of carbon that the fireman feeds into the firebox it takes eleven and six-tenths pounds, or one hundred and fifty-two cubic feet of me to complete the combustion of that pound of carbon.

The electric locomotive requires just as much of me to generate the steam in the power plant that supplies the electricity, and I also insulate the conductors that carry the current from the power plant to the locomotive.

The gasoline motor, the oil engine and the gas engine cannot run without me, since it takes approximately nine cubic feet of me to burn a cubic foot of gas or gasoline vapor, and usually I expand from a compressed state to start the larger sizes of these engines turning, when it is necessary to get them into motion.

I am not only necessary to the automobile motor, but I cool the water in the radiator. I am forced under pressure into every pneumatic tire in the land.

Owing to my peculiar properties, I can be compressed into a close chamber, and, under these conditions, the smaller my volume, the higher my pressure.

When in this state I have countless uses. I drive the air guns that set up the rivets in

the structural steel work of the new building or bridge.

In mining and quarrying, I furnish power to the drill that works its way into the solid ore or rock, to make a place to plant the shattering dynamite.

I set and release the brakes on every train. I go down into the caisson and hold the water out so that men may work far below the bottoms of rivers. I also hold back the water for man when he tunnels under the sea, and I support the multitudes that travel through tubes far under ground and rivers.

If I am cooled under pressure and allowed to expand again after I have been compressed I will cool far below my original temperature, and if my pressure is raised and my temperature lowered by stages I will eventually reach the temperature of three hundred and seventy-two degrees below zero, Fahrenheit, at which point I will liquify.

When in the liquid state I will freeze ice or burn steel in the same vessel. I am so much colder than the surrounding air that I boil violently, while the dipper or vessel that I am drawn into will be coated with frost.

After I have warmed slightly my seventy-eight per cent of nitrogen will evaporate and leave my oxygen in the liquid. My nitrogen gas can then be employed in the manufacture of cyanamid, nitric acid and other products used for fertilizers and for high explosives.

The airplane is my own machine, for I not only furnish the necessary oxygen to its motors, but I am the medium by which it is supported thousands of feet above the earth.

My pressure on its wings and rudders sustains it on a level course, turns it to right or left and raises or lowers it, at the will of the pilot.

Passengers are carried in this craft and mails are transported from coast to coast with a speed that is almost beyond comprehension.

The mighty Atlantic has been spanned in a single flight! Sixteen hundred and fifty miles in sixteen hours and twelve minutes.

All these useful things I do! And there are hundreds more that I have in my power. Yet I am not a king but a servant to mankind. Always needed, always present, always helpful. *I am the Air.*

I AM THE
AIR — THIS
IS MY STORY



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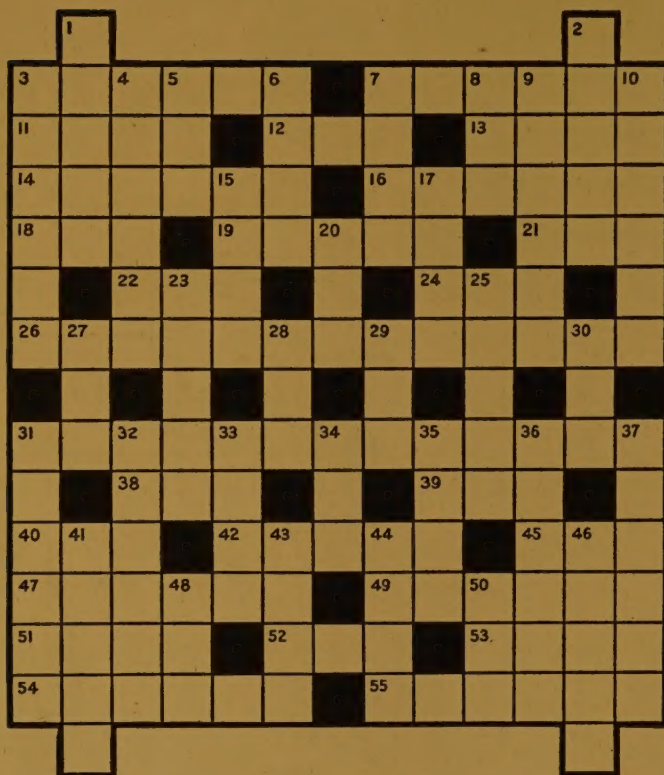
who started out undersized, freckled and unloved, but beautifully overcame all his handicaps.

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"BACK TO NATURE"



HORIZONTAL

3. An atmospheric illusion.
7. Fleece of the Angora goat.
11. Varicolored gem.
12. To court a mate.
13. The national bird (unusual spelling).
14. Herb with stinging leaves.
16. Relating to a family of long-winged seabirds.
18. System of rules devised for procuring a scientific result.
19. Species of willow used in wickerwork.
21. Character in Spenser's "Faërie Queene."
22. A beast of burden.
24. One versed in natural history (abbr.).
26. A student of bird life.
31. Family of "chunky-headed" snakes, native to South and Central America.
38. Organ of vision.
39. Wing or wing-like formation.
40. Eggs of a fish.
42. Venomous snake.
45. Bleat of a sheep.
47. Prefix implying yellowness in plants and birds.
49. Nests of eagles and other birds of prey.

Answer will appear in July issue of The Mentor.

51. Species of cabbage.
52. An eagle.
53. Aboriginal term in Australia for kangaroo.
54. Scientific name for "spider monkeys."
55. A large fish, found in abundance on the Pacific coast of North America.

VERTICAL

1. A serpent whose name signifies treachery.
2. A mythical monster said to have been present at the birth of Confucius.
3. A Mediterranean principality, seat of a famous oceanographic museum.
4. Stem of a flexible palm from which many useful articles are made.
5. Height above sea level (abbr.).
6. Female sheep.
7. A small, furry animal that digs for its prey.
8. Feminine pronoun.
9. An edible rodent native to South America.
10. A common household pest (two words).
15. In a maze.
17. A river that flows through Florence, Italy, to the Mediterranean.
20. Three vowels spelling the name of a Samoan bird.
23. Lacking in good sense.
25. Pertaining to the fields.
27. The male of the bovine species of animals.
28. Demonstrative Latin pronoun.
29. To take up with the tongue, as a dog drinks.
30. The fan-tailed fly-catcher (Samoa).
31. Continent celebrated for its big game.
32. Horny-winged insect worshiped by the ancient Egyptians.
33. Period of time during which the seasons go through their changes.
34. To terminate life.
35. A big cousin of the rabbit.
36. A lip of flower or animal.
37. A division of the year.
41. The candlewood pine.
43. Term applied to females of deer, rabbits and kangaroos.
44. Brings forth young.
46. Airplanes (colloq.).
48. A fish of snake-like form.
50. Relative (abbr.).

What I Think of Pelmanism—

By Judge
Ben B. Lindsey

PELMANISM is a big, vital, significant contribution to the mental life of America. I have the deep conviction that it is going to strike at the very roots of individual failure, for I see in it a new power, a great driving force.

I first heard of Pelmanism while in England on war work. Sooner or later almost every conversation touched on it, for the movement seemed to have the sweep of a religious conviction. Men and women of every class and circumstance were acclaiming it as a new departure in mental training that gave promise of ending that **preventable** inefficiency which acts as a brake on human progress. Even in France I did not escape the word, for thousands of officers and men were *Pelmanizing* in order to fit themselves for return to civil life.

When I learned that Pelmanism had been brought to America by Americans for Americans, I was among the first to enroll. My reasons were two: first, because I have always felt that every mind needed regular, systematic, and scientific exercise, and, secondly, because I wanted to find out if Pelmanism was the thing that I could recommend to the hundreds who continually ask my advice in relation to their lives, problems, and ambitions.

Failure is a sad word in any language, but it is peculiarly tragic here in America, where institutions and resources join to put success within the reach of every individual. In the twenty years that I have sat on the bench of the Juvenile Court of Denver, almost every variety of human failure has passed before me in melancholy procession. By *failure* I do not mean the merely criminal mistakes of the individual, but the faults of training that keep a life from full development and complete expression.

Pelmanism the Answer

If I were asked to set down the principal cause of the average failure, I would have to put the blame at the door of our educational system. It is there that trouble begins—trouble that only the gifted and most fortunate are strong enough to overcome in later life.

What wonder that our boys and girls come forth into the world with something less than firm purpose, full confidence and leaping courage? What wonder that mind wandering and wool gathering are common, and that so many individuals are shackled by indecisions, doubts, and fears?

It is to these needs and these lacks that Pelmanism comes as an answer. The "twelve little gray books" are a remarkable achievement. Not only do they contain the discoveries that science knows about the mind and its working, but the treatment is so simple that the

truths may be grasped by anyone of average education.

In plain words, what Pelmanism has done is to take psychology out of the college and put it into harness for the day's work. It lifts great, helpful truths out of the back water and plants them in the living stream.

As a matter of fact, Pelmanism ought to be the beginning of education instead of a remedy for its faults. First of all, it teaches the science of self-realization; it makes the student *discover* himself; it acquaints him with his sleeping powers and shows him how to develop them. The method is *exercise*, not of the haphazard sort, but a steady, increasing kind that brings each hidden power to full strength without strain or break.

Pelmanism's Large Returns

The human mind is *not* an automatic device. It will not "take care of itself." Will-power, originality, decision, resourcefulness, imagination, initiative, courage—these things are not gifts but results. Every one of these qualities can be developed by effort just as muscles can be developed by exercise. I do not mean by this that the individual can add to the brains that God gave him, but he can learn to make use of the brains that he has instead of letting them fall into flabbiness through disuse.

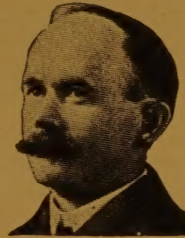
Other methods and systems that I have examined, while realizing the value of mental exercise, have made the mistake of limiting their efforts to the development of some single sense. What Pelmanism does is to consider the mind as a whole and treat it as a whole. It goes in for mental team play, training the mind as a unity.

Its big value, however, is the instructional note. Each lesson is accompanied by a work sheet that is really a progress sheet. The student goes forward under a teacher in the sense that he is followed through from first to last, helped, guided, and encouraged at every turn by conscientious experts.

Pelmanism is no miracle. It calls for application. But I know of nothing that pays larger returns on an investment of one's spare time from day to day.

(Signed) Ben B. Lindsey.

Note: As Judge Lindsey has pointed out, Pelmanism is neither an experiment nor a theory. For almost a quarter of a century it has been showing men and women how to lead happy, successful, well-rounded lives. 650,000 Pelmanists in every country on the globe are the guarantee of what Pelman training can do for you.



JUDGE BEN B. LINDSEY

Judge Ben B. Lindsey is known throughout the whole modern world for his work in the Juvenile Court of Denver. Years ago his vision and courage lifted children out of the cruelties and stupidities of the criminal law, and forced society to recognize its duties and responsibilities in connection with the "citizens of to-morrow."

No matter what your own particular difficulties are—poor memory, mind wandering, indecision, timidity, nervousness, or lack of personality—Pelmanism will show you the way to correct and overcome them. And on the positive side, it will uncover and develop qualities which you never dreamed existed in you. It will be of direct, tangible value to you in your business and social life. In the files at the Pelman Institute of America are hundreds of letters from successful Pelmanists telling how they doubled, trebled and even quadrupled their salaries, thanks to Pelman training.

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PUBLISHED MONTHLY BY THE CROWELL PUBLISHING COMPANY AT SPRINGFIELD, OHIO, U. S. A.

THE MENTOR

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THE ADDRESS OF EXECUTIVE AND EDITORIAL OFFICES, 250 PARK AVENUE, NEW YORK CITY.

THE SUBSCRIPTION PRICE, \$4.00 A YEAR

THE PRICE OF SINGLE COPIES, 35 CENTS

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THE OPEN LETTER



EDITOR OF THE MENTOR: I should like to know what The Mentor has to say about the problem of evil. If there is an all-wise Providence that directs things here, why is there so much sin and sorrow

in the world?

C. B. R.

Life is made up of contrasts: light and dark, hot and cold, fast and slow, glad and sad, good and bad. Without such contrasts there would be no life as we know it: there would be nothing but utter stagnation.

Why not then consider evil as having a place in the scheme of life like that of darkness in the calendar of years—and take the following line of thought:

If the whole world should become utterly dark, if light should fail altogether, civilization would soon break down, confidence would be destroyed, and we would no doubt sink into a condition of general demoralization.

Now, what *are* the conditions of light and darkness in the world? In the far north, in the winter months, there are only two or three hours of light in the twenty-four. But man "carries on" through the dreary hours of winter darkness because *he knows that the light will come*. Without that confidence in the coming light his faith in things would fail.

When the light grows—though gaining little each day—he welcomes it as a sure sign of the advancing season. He knows that every winter day brings spring and summer nearer; and every day confirms his confidence.

When summer comes he gets a full flood of light and only two or three hours of darkness. Light becomes so plentiful that his eyes ache under it. The light that he longed for in the winter becomes a burden. Then he finds that he *wants* dark—enough hours of dark to rest his eyes and relieve his nerves. If he had light, light, light *all* the time it seems to him that he would go mad.

"Light is good: Dark is evil," so declared Zoroaster, prophet of the East. But *we* know that light *all the time* is not good for us, and that *some* dark is not evil.

Darkness makes light a boon to man: evil makes good a blessing. The presence of evil, then, in the world should not weaken one's faith in right any more than darkness should weaken his confidence in the steadfastness and constancy of light.

If all things were exactly right and every living creature entirely good what would there be on which to build and prove character? If there were no evil to contend against what zest would there be in the struggle of life? What satisfaction in the conquest?

The philosopher John Fiske answered the question when he wrote: "It is for him that *conquereth* that the crown of life is reserved."

In the midst of darkness we work on and look for the light. In the midst of wrong we work on and look for the right. The main thing is that we work on and hope—not mope.

A medieval legend relates that an angel was sent to Satan to notify him that the Almighty had decided to deprive him of his evil power.

Satan begged that just *one* influence should be left for him. "What influence?" asked the angel. "Depression," answered Satan—and that seemed so slight a matter he was allowed to retain it. Satan chuckled: "In that influence alone I hold the whole bag of tricks." He knew that when faith, hope and self-confidence failed he could have his way.

W. D. Moffat